INTERNATIONAL
CATS CONTESTS
COMPETENCE & APTITUDE TESTING SERVICES
FASTEST GROWING CONTESTS IN PAKISTAN

Preparatory Material

ICATS MATHEMATICS CONTEST

Grade 7-8

QUESTION PAPER

NATIONAL MATHEMATICS CONTEST
JUVENILES (GRADE 7 & 8)

ICATS International CATS Contests
An Assessment Center

INTERNATIONAL
CATS CONTESTS
COMPETENCE & APTITUDE TESTING SERVICES

NATIONAL MATHEMATICS CONTEST

JUVENILES (GRADE 7 & 8)

TIME ALLOWED : 90 MINUTES

MAXIMUM MARKS : 90

TOTAL QUESTIONS : 30 MCQS

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   - A. TODDLERS (GRADE 1 & 2)
   - B. KIDS (GRADE 3 & 4)
   - C. JUNIORS (GRADE 5 & 6)
   - D. JUVENILES (GRADE 7 & 8)
   - E. ADOLESCENTS (GRADE 9 & 10 / O-LEVELS)
   - F. SENIORS (GRADE 11 & 12 / A-LEVELS)
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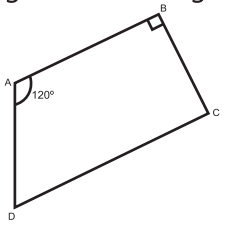
Q1. *Ahmad has Rs.999 and Bilal has Rs.1,111*
How much money does Bilal need to give to Ahmad, so that they would have the same amount of money?

A	Rs.1	B	Rs.51	C	Rs.56	D	Rs.91

Q2. *If 1 gram of grass seed is needed to plant 1 square meter, how much grass seed will be needed to plant an entire field that is 110 meters long and 70 meters wide?*

A	About 7.7 kilograms	B	About 15 kilograms
C	About 37.5 kilograms	D	About 77 kilograms

Q3. *In the quadrilateral ABCD, angle A is 120 degrees, angle D is two thirds of angle C, and angle B is 90 degrees. Find angle C.*



A	40°	B	45°	C	60°	D	90°

Q4. *Brad mixes seeds to attract birds. His blue mix is 55% sunflower and 45% bluegrass. His Rye mix is 30% sunflower and 70% ryegrass. His Master mix combines some of each of the Blue and Rye mixes. If Master mix is 45% sunflower, how much of each kg of Master mix is Blue mix?*

A	360 g	B	400 g	C	600 g	D	650g

Q5. *X is a whole number.*
X + 7 is greater than 33 and X - 7 is less than 22.
Find all the numbers that X could be.

A	None	B	27	C	28	D	27 and 28

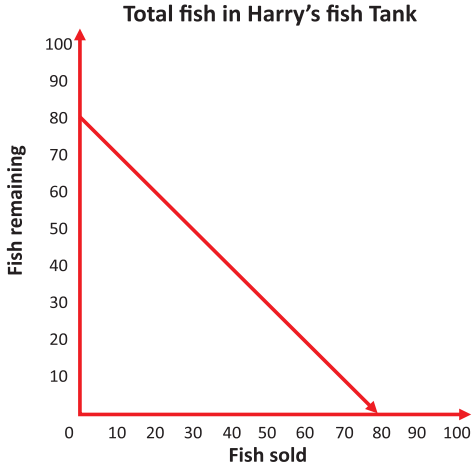
Q6. *Two cousins visited Jane today. One cousin visits every 42 days. The other visits every 429 days. They will next visit on the same day in __?__ days.*

A	4296	B	6006	C	9009	D	18018

Q7. *The measure of the smaller angle formed by the hour and minute hands of a circular clock at 2:46 is*

A	84º	B	137º	C	167º	D	174º

Q8. *This graph shows how the number of fish remaining in Harry's fish tank depends on the number of fish he has sold.*



How many fish must Harry sell in order to have 30 fish left in the tank?

A	50	B	80	C	110	D	120

Q9. *A store purchased a microwave for £ 100 and marked it up 50%. Martin makes a 4% commission on all of his sales. How much commission did he make when he sold the microwave?*

A	4	B	6	C	8	D	9

Q10. *If I multiply all whole numbers from 1 through 100, the largest power of 4 that is a factor of the product is*

A	4^{25}	B	4^{32}	C	4^{48}	D	4^{50}

Q11. *200 employees work for company XYZ, where the ratio of men to women is 11 to 9. If 30 men leave the company and 10 women are hired. What is the new ratio of men to women?*

A	4/5	B	5/4	C	9/10	D	9/11

Q12. *Of my books, 85% are new and the rest are used. Some are biographies, 70% of which are new. What is the ratio of the fraction of new books that are biographies to the fraction of used books that are biographies?*

A	7:17	B	14:17	C	17:14	D	17:7

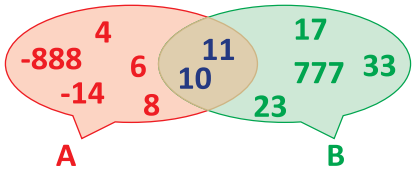
Q13. *Mr. Barry is angry. He has 4 grubs left after he tried to divide 256 grubs equally among his cubs. There could be __?__ cubs.*

A	5	B	6	C	8	D	11

Q14. *John started a business in which he earned Rs.100 for the first day. Rs.500 on the second day. Rs.900 on the third day. Rs.1300 on the fourth day. and so on. What is his earning in day 1000?*

A	Rs. 399100	B	Rs. 399700	C	Rs. 400000	D	Rs. 400500

Q15. *The diagram shows two sets of number: set A and set B. Find the correct descriptions for sets A and B.*

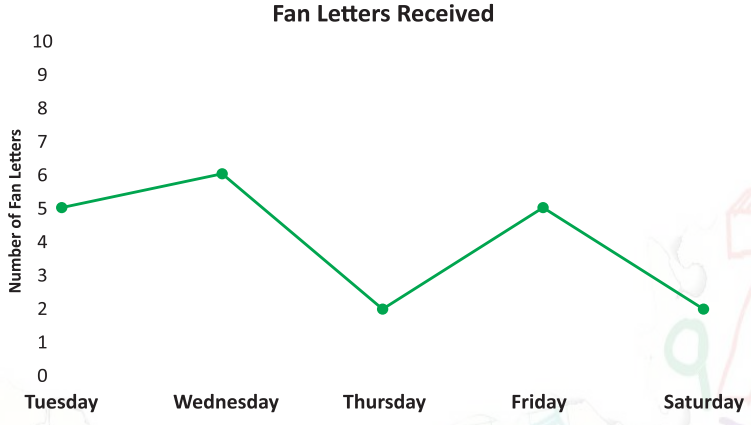


A	A = even numbers; B = odd numbers	**B**	A < 13 ; B > 9
C	A < 10 ; B > 10	**D**	A = red ; B = green

Q16. *Today is my birthday. My age today, in months, is 72 times my age 5 years ago, in years. My age today, in years, is*

A	6	**B**	7	**C**	8	**D**	12

Q17. *An actor was informed how many fan letters he received each day. What is the mean of the numbers?*

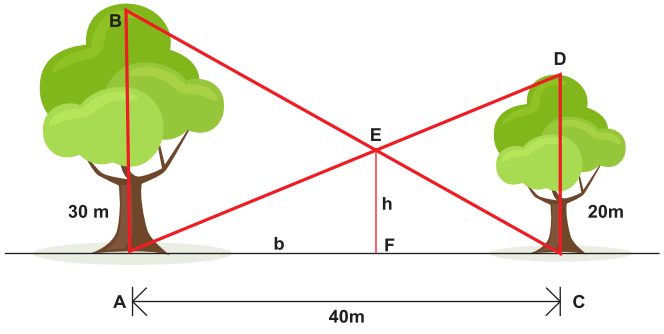


A	4	**B**	5	**C**	20	**D**	none of these

Q18. *Which statement is NOT correct?*

A	9 days = 216 hours
B	9 weeks = 63 days
C	9 years = 109 months
D	9 years = 36 quarters

Q19. *Two trees of height 20m and 30m have ropes running from the top of each tree to the bottom of the other tree. How high above the ground do the ropes intersect? The trees are 40m apart.*

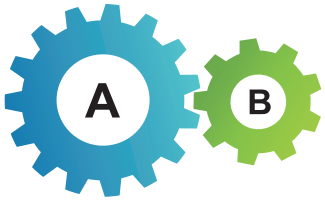


A	6m
B	12m
C	18m
D	24m

Q20. *The number halfway between 45674567 and 67896789 is*

A	55443322
B	55556666
C	56565656
D	56785678

Q21. *Two gear wheels A and B are in contact. One wheel (A) has 36 teeth. the other (B) has 24 teeth. How many times must the smaller wheel turn before the larger wheel completes a revolution?*



A	1.0	**B**	1.5	**C**	2.0	**D**	2.5

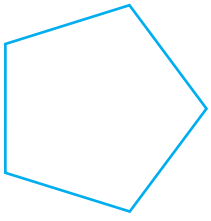
Q22. *Gerry had 24 LEGO bricks and Jane had 6 Bricks. Gerry gave some of his bricks to Jane so that she ended with twice as many bricks as Gerry. How many bricks did Gerry give to Jane?*

A	12 Bricks	**B**	13 Bricks	**C**	14 Bricks	**D**	15 Bricks

Q23. *The tenths digit of __?__ is larger than its hundredths digit.*

A	231.23	**B**	543.21	**C**	642.46	**D**	654.56

Q24. *The diagram shows a convex polygon.*



What is the sum of the exterior angle measures, one at each vertex, of this polygon?

A	90	**B**	180	**C**	270	**D**	360

Q25. *I wear my headphones only on cloudy days. the day after each cloudy day is a sunny day. How many tines a week I wear my headphones?*

A	3 times	B	4 times	C	5 times	D	6 times

Q26. *Tessa bought 8 postcards during 2 days of vacation. How many days will Tessa have to spend on vacation before shw will have bought a total of 20 postcards? Assume the relationship is directly proportional.*

A	2	B	3	C	4	D	5

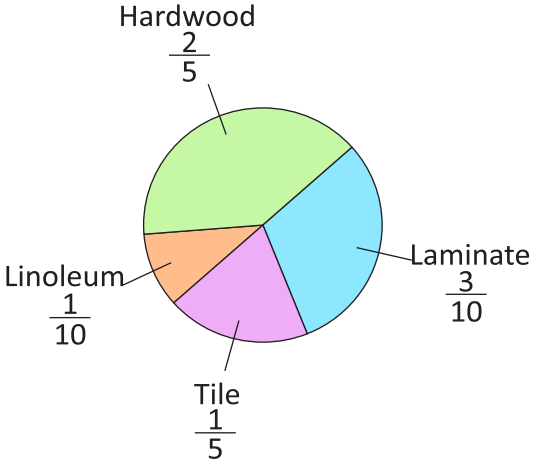
Q27. *The mass of Earth is 5.9742 x 1024kg.*
The mass of Venus is 4.8685 x 1024kg.
The mass of Mars is 6.4185 x 1023kg.
The mass of Moon is 7.3477 x 1022kg.
What is the smallest mass from the following?

A	Mars and Venus together	C	10 Mars
B	100 " Moons"	D	Earth

Q28. *If my doctor's "IN" sign is a square with a perimeter of 4, then its area is*

A	1	B	4	C	8	D	16

Q29. *Dodson's Flooring sponsored a survey about home flooring preferences. Which list is arranged from the least popular flooring to the most popular flooring?*



A linoleum, laminate, tile, hardwood

B laminate, linoleum, tile, hardwood

C linoleum, tile, laminate, hardwood

D linoleum, laminate, hardwood, tile

Q30. *Alex, Bill and Craig have a combined weight of 111 kilograms. Alex weighs 44 kilograms and Bill weighs seven-eighths of Alex's weight. What is Craig's weight in kilograms?*

A 2.25 kg **B** 28.5 kg **C** 31.5 kg **D** 32.5 kg

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Answer Sheet

INSTRUCTIONS

- This is a generic answer sheet to be used by participants of all grades. Students of Grade 1-2 will fill in circles of first 20 questions, Grade 3-4 will fill in circles of 25 questions and Grade 5-10 will fill in circles of 30 questions.
- Please recheck your Name, Father Name, Grade and School written below, the same would appear at your certificate.
- Use of lead pencil is not allowed.
- Use only Black / Blue ink to fill in the circles.

ICATS Mathematics Contest 2017
Grade 7-8

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled table of answers.

(A) (B) (C) (D) Correct Filling Answer **"C"**

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

Q	Answer	Q	Answer	Q	Answer
1	B	11	A	21	B
2	A	12	A	22	C
3	B	13	B	23	B
4	B	14	B	24	D
5	D	15	B	25	B
6	B	16	A	26	D
7	B	17	A	27	A
8	A	18	C	28	A
9	B	19	B	29	C
10	C	20	D	30	B

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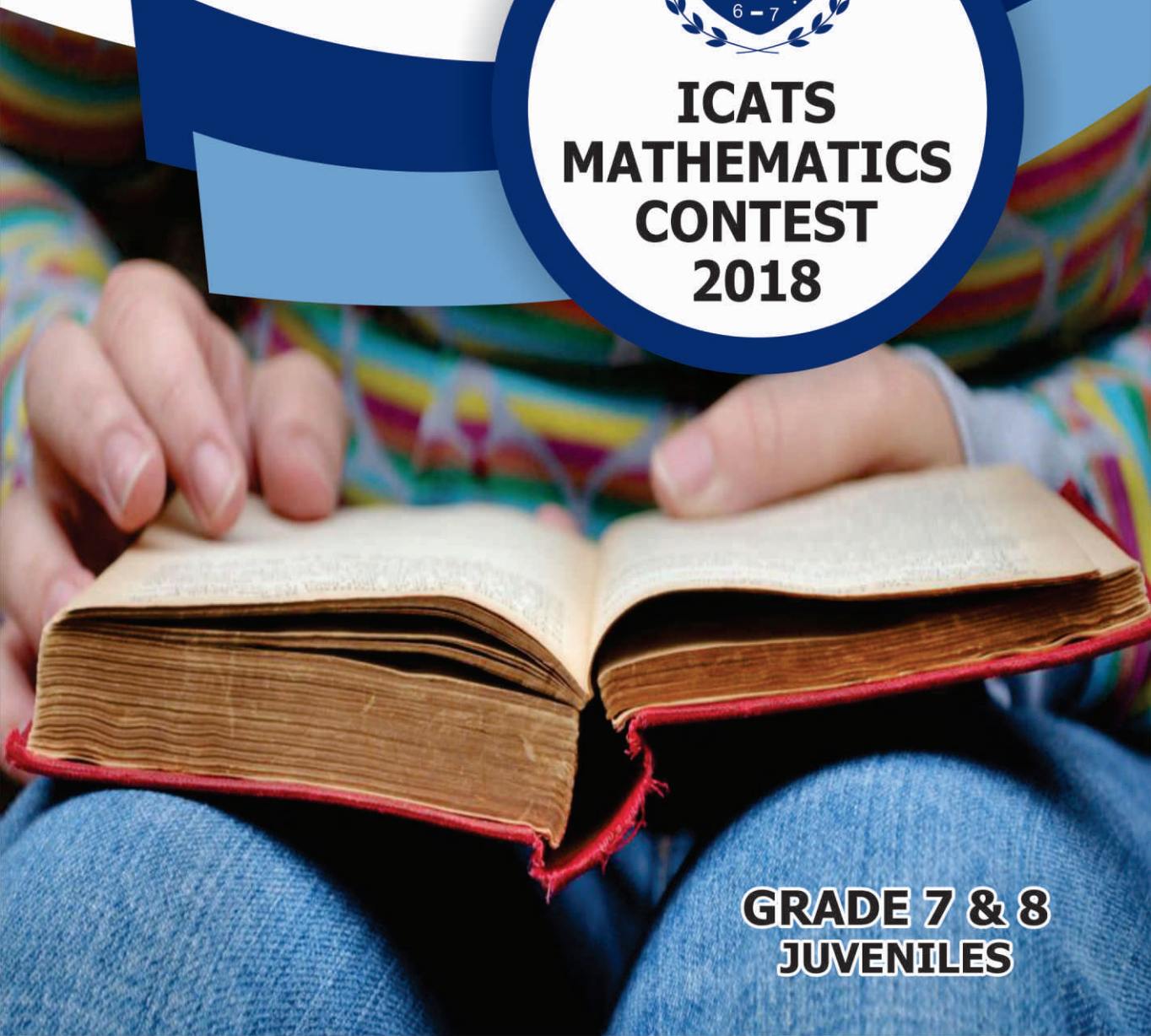
ICATS MATHEMATICS CONTEST 2018



GRADE 7 & 8
JUVENILES

ICATS MATHEMATICS CONTEST 2018
JUVENILES (GRADE 7 & 8)

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Q1. **The temperature in Chicago was −3°F at 8 A.M. The temperature increased 5°F by noon. The temperature then decreased 7°F by 4 P.M. What was the temperature in Chicago at 4 P.M.?**

A −15°F **B** −9°F **C** −5°F **D** −1°F

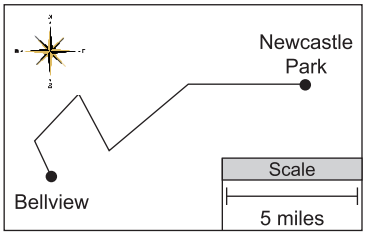
Q2. **Mr. Smith asked his students whether they prefer to go to a museum or the zoo for a field trip. He found that 35% of the students prefer to go to a museum, 45% prefer to go to the zoo, and the rest have no preference. What is the ratio of students who have no preference to the students who prefer to go to the museum?**

A 1:4 **B** 1:5 **C** 4:7 **D** 4:9

Q3. **A movie is being shown on television. The movie is scheduled for a 150-minute time period. There will be some 6-minute commercial breaks (b) throughout the movie. The actual length of the movie is 114 minutes. Which equation could be used to find b, the number of 6-minute commercial breaks?**

A 150=6(114 +b) **B** 150=114b + 6 **C** 114 =150 − 6b **D** 114 =6(150 −b)

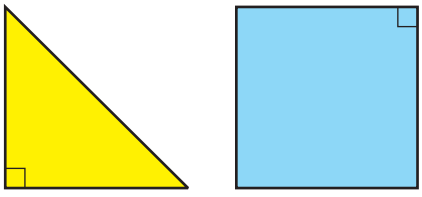
Q4. **Roberto rode his bicycle from Bellview to Newcastle Park and back on the bicycle path shown on the map.**



Which is closest to the roundtrip distance Roberto traveled?

A 6 miles **B** 15 miles **C** 24 miles **D** 30 miles

Q5. **Look at the two figures below.**



Which could not describe the intersection of these two figures?

A a line segment **B** a point **C** a right angle **D** a ray

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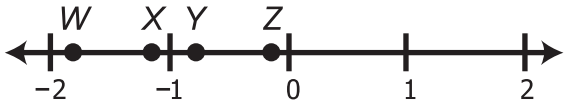
Q6. **Shelley received the four cards shown below.**

$\sqrt{3}$	1.51	2	0.99
P	*R*	*S*	*T*

She was asked to put the cards in order from least to greatest value. Which list shows the correct order of the cards?

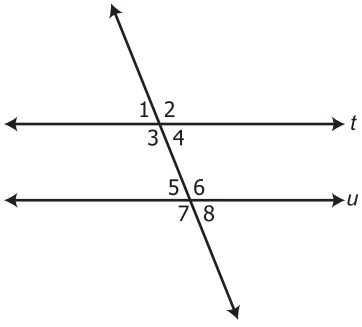
A P, T, R, S **B** S, P, T, R **C** T, P, R, S **D** T, R, P, S

Q7. **Which point on the number line is closest to the location of −1.2?**



A W **B** X **C** Y **D** Z

Q8. **Parallel Lines *t* and *u* when cut by Transversal *v* form eight angles, as shown in the diagram below.**



If the measure of Angle 2 is 112°, what is the measure of ∠5?

A 68° **B** 72° **C** 112° **D** 248°

Q9. **Coach Jenson will order soccer uniforms from one of the stores listed below.**

Store A sells 15 uniforms for a total of $449.85.
Store B sells 10 uniforms for a total of $300.00.
Store C sells uniforms for $32.00 per uniform.
Store D sells 2 uniforms for a total of $58.00.

Which store has the lowest price per uniform?

A Store A **B** Store B **C** Store C **D** Store D

Q10. **The table below shows the masses of some of the planets in our solar system.**

Mass of Planets

Planet	Mass (in kilograms)
Earth	7.3483×10^{22}
Jupiter	1.8987×10^{27}
Uranus	8.6849×10^{25}
Neptune	1.0244×10^{26}

Which list of planets is in order from the least mass to the greatest mass?

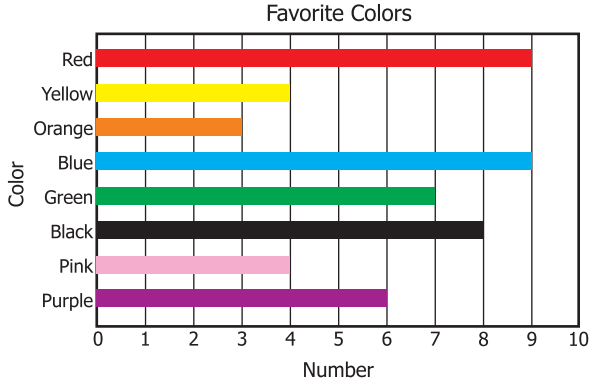
A Neptune, Jupiter, Earth, Uranus

B Jupiter, Neptune, Uranus, Earth

C Earth, Uranus, Neptune, Jupiter

D Uranus, Earth, Jupiter, Neptune

Q11. **The graph shows the favorite colors chosen by some middle school students.**



Which statement is supported by the information in the graph?

A Fewer than 30% of the students chose red, yellow, or orange as their favorite color.

B More than $\frac{1}{10}$ of the students chose pink as their favorite color.

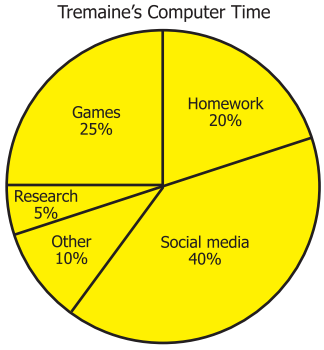
C Exactly 18% of the students chose blue as their favorite color.

D Exactly $\frac{2}{5}$ of the students chose green, black, or purple as their favorite color.

Q12. **Kiara downloaded 264 pictures from her cell phone to her computer. These pictures took up 528 megabytes of space on her computer. Each picture took up the same amount of space. How many megabytes do 35 of these pictures take up?**

A 18 MB **B** 70 MB **C** 8MB **D** 23 MB

Q13. **The circle graph shows how Tremaine divided his time on the computer last week.**



Tremaine used the computer a total of 30 hours last week. How many more hours did Tremaine use the computer to play games than to do research?

A 6 hours **B** 20 hours **C** 7.5 hours **D** 1.5 hours

Q14. **A pilot takes a taxi from the airport to a hotel. The taxi driver charges a $2.50 initial charge plus $2.65 per mile. Which equation can be used to find y, the total cost of the trip, if x represents the number of miles of the trip?**

A $y = 2.50x + 2.65$ **B** $y = 2.65(x + 2.50)$ **C** $y = 2.65 \times 2.50$ **D** $y = 2.65x + 2.50$

Q15. **Leo wants to buy some shoes. He found the shoes at three different stores for a price of $35. The stores are each having a sale.**

- Store X is offering 15% off the price of the shoes.
- Store Y is offering $5 off the price of the shoes.
- Store Z is offering a 1/5 discount off the price of the shoes.

Which statement about the sale price of these shoes is true?

A Store X has the best sale price of $20.

B Store Z has the best sale price of $28.

C Store Y has the best sale price of $30.

D Store Z has the best sale price of $7.

Q16. **The price of a television was reduced from $250 to $200. By what percentage was the price of the television reduced?**

A 20%

B 25%

C 80%

D 50%

Q17. **Which statement is Not correct**

A 9 years = 45 quarters

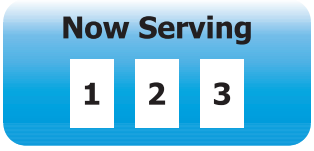
B 9 years = 108 months

C 9 days = 216 hours

D 9 weeks = 63 days

Q18. **Six post office employees are working today.**
It takes one employee one minute to serve one person.

How long would you have to wait in the line if you hold number 321?



A 33 minutes **B** a half an hour **C** 20 minutes **D** 45 minutes

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Q19. **Eight students travel in a car. They speak English, French and Spanish. Everybody speaks two languages. Four students speak French. Five students speak Spanish.**

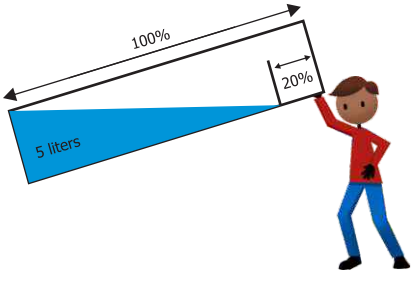
How many students speak English?

A 7 **B** 6 **C** 8 **D** 9

Q20. **The aquarium was full of water. A boy has tipped it on its side, so five liters are left.**

How much water does the aquarium hold when it is full of water.

A 12.5 liters
B 12 liters
C 11 liters
D 16 liters



Q21. **Maggie read a book in five days, Monday through Friday. Each day, she read 12 more pages than the previous day.**
She read 47 pages on Thursday. How many pages were in the book?

A 59 **B** 116 **C** 140 **D** 175

Q22. **How many seconds are in 8.4 minutes?**

A 485 **B** 490 **C** 500 **D** 504

Q23. **Jui Chin put $10 into savings on January 1, $20 on February 1, $30 on March 1, and so on. Each month he saved $10 more than the previous month.**

Mui Tze put $1 into savings on January 1, $2 on February 1, $4 on March 1, and so on. Each month she saved twice as much as the previous month.

At the end of one year, how much more had Mui Tze saved than Jui Chin?

A $1268 **B** $3315 **C** $3435 **D** $7410

Q24. **A 9.0 earthquake and resulting tsunami struck Japan at approximately 3 PM on Friday, March 11, 2011. About 211 hours later, 80-year old Sumi Abe and her 16-year old grandson Jin Abe were found alive in the damaged kitchen of their collapsed house. When were they found?**

A 10 AM Saturday, March 19

B 11 PM Saturday, March 19

C 10 AM Sunday, March 20

D 11 PM Sunday, March 20

Q25. **When you multiply five million times four billion the answer is "2" followed by how many zeroes?**

A 12 **B** 13 **C** 15 **D** 16

Q26. **Using these eight digits (each once), write any two 3-digit numbers and one 2-digit number. Add those three numbers.**

1 2 3 4 5 7 8 9

What is the remainder when that sum is divided by 9?

A 0 **B** 1 **C** 2 **D** 3

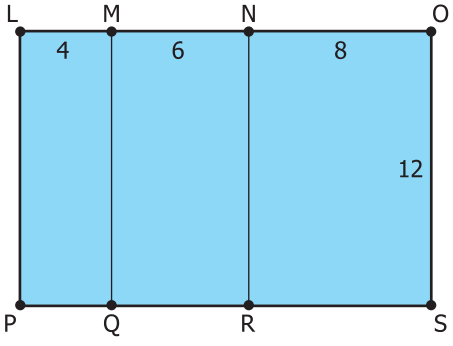
Q27. **Three men start work at 6:00 AM to dig two holes. Assume that each worker digs at the same rate. One of them works alone and finishes digging a 3 foot by 3 foot by 3 foot hole at 8:00 AM. The other two men work together to dig a 6 foot by 6 foot by 6 foot hole. At what time will these two men finish?**

A 8:00 AM **B** 10:00 AM **C** 2:00 PM **D** 4:00 PM

Q28. **In basketball, a player can score by making 2-point shots, 3-point shots, or 1 point for each free throw made. In one game, Loni made four of seven 2-point shots, two of five 3-point shots, and attempted 16 free throws. If she scored 24 points, what percent of her free throws did she make?**

A 37.5% **B** 50% **C** 60% **D** 62.5%

Q29. **Rectangle LOSP is shown below. The lengths, in units, of some of the line segments are also shown. Line segments MQ and NR are perpendicular to line segment LO.**

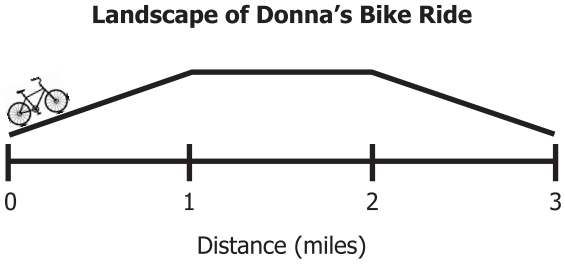


Which shape is similar to rectangle LOSP?

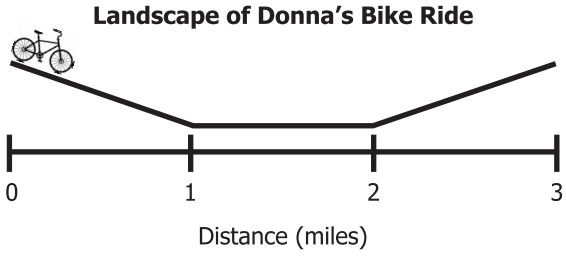
A LMQP **B** LNRP **C** MNRQ **D** OSRN

Q30. **Donna rode her bike for three miles. She traveled 18 miles per hour the first mile, 15 miles per hour the second mile, and 21 miles per hour the third mile. Which diagram shows the most likely landscape of Donna's bike ride?**

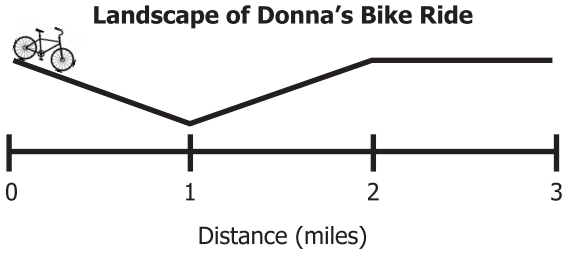
A



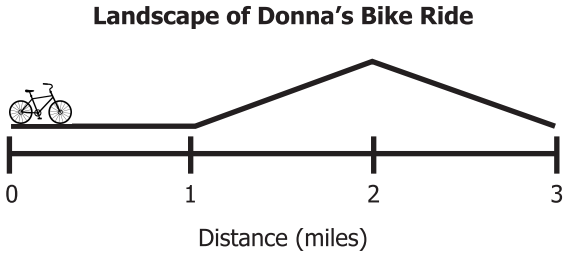
B



C



D



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Answer Sheet

INSTRUCTIONS

- This is a generic answer sheet to be used by participants of all grades. Students of Grade 1-2 will fill in circles of first 20 questions, Grade 3-4 will fill in circles of 25 questions and Grade 5-10 will fill in circles of 30 questions.
- Please recheck your Name, Father Name, Grade and School written below, the same would appear at your certificate.
- Use of lead pencil is not allowed.
- Use only Black / Blue ink to fill in the circles.

ICATS Mathematics Contest 2018
Grade 7-8

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled table of answers.

(A) (B) (C) (D) Correct Filling Answer **"C"**

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

Q	Answer	Q	Answer	Q	Answer
1	D	11	D	21	D
2	D	12	C	22	D
3	D	13	A	23	B
4	C	14	D	24	C
5	C	15	B	25	D
6	C	16	A	26	D
7	B	17	A	27	C
8	A	18	A	28	D
9	C	19	A	29	D
10	D	20	A	30	D

ICATS MATHEMATICS CONTEST 2019

QUESTION BOOKLET

GRADE 7 & 8 JUVENILES

Time Allowed: 90 Mins.
Maximum Marks: 90

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ICATS MATHEMATICS CONTEST 2019

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TOTAL QUESTIONS : 30 MCQS

INSTRUCTIONS

1. DON'T START ATTEMPTING THE PAPER UNTIL INSTRUCTED BY THE INVIGILATORS.
2. INSTRUCTIONS FROM THE EXAMINATION INVIGILATORS MUST BE CARRIED OUT PROMPTLY.
3. CAREFULLY RECHECK YOUR NAME, FATHER NAME, SCHOOL NAME, ADDRESS ETC AT THE BUBBLE SHEET / ANSWER SHEET.
4. RECORD ALL ANSWERS ON THE BUBBLE SHEET ONLY. SELECT BEST ANSWER FROM THE FOUR GIVEN OPTIONS AND MARK ONLY ONE OPTION IN EACH QUESTION.
5. USE BLUE / BLACK INK TO FILL UP THE CIRCLES FOR YOUR ANSWERS ON THE BUBBLE SHEET. USE OF LEAD PENCIL IS NOT ALLOWED.
6. USE OF ANY HELPING MATERIAL INCLUDING CELL PHONES AND ELECTRONIC DEVICES IS STRICTLY PROHIBITED.
7. EVERY CORRECT ANSWER EARNS THREE POINTS. THERE WOULD BE NEGATIVE MARKING. ONE POINT WOULD BE DEDUCTED FOR EVERY INCORRECT ANSWER.
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10. THERE ARE FIVE CATEGORIES OF THE CONTEST AS UNDER:
    - A. TODDLERS (GRADE 1 & 2)
    - B. KIDS (GRADE 3 & 4)
    - C. JUNIORS (GRADE 5 & 6)
    - D. JUVENILES (GRADE 7 & 8)
    - E. ADOLESCENTS (GRADE 9 & 10 / O-LEVELS)
11. ONLY REGISTERED STUDENTS CAN PARTICIPATE IN THE CONTEST.
12. NO CANDIDATE SHALL TAKE OUT OF THE HALL ANY ANSWER BOOK(S) OR PART OF AN ANSWER BOOK, WHETHER USED OR UNUSED, OR OTHER SUPPLIED MATERIAL.
13. IF A PARTICIPANT DOES NOT UNDERSTAND A WORD OR PHRASE ON THE EXAM PAPER, NEITHER EXAMINER NOR INVIGILATOR IS PERMITTED TO ANSWER.
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Q1. **Paula went shopping and spent a total of $92.00. She bought 1 pair of sunglasses, 2 hats, and 4 shirts.**

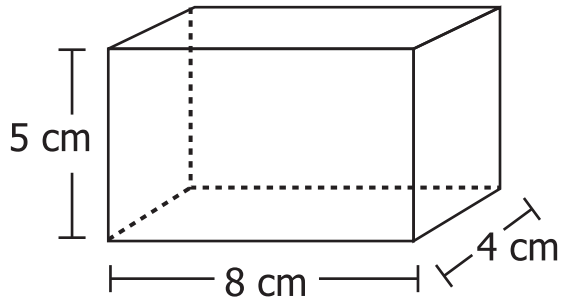
PAULA'S SHOPPING TRIP

Type of Item	Number Bought	Price	Total Cost
Sunglasses	1	?	
Hat	2	$12.00 each	
Shirt	4	$15.00 each	
		TOTAL SPENT	$92.00

The sum of the Total Costs for the 3 types of items should add up to $92.00. What is the price of the sunglasses.

A $8 **B** $12 **C** $15 **D** $92

Q2. **Juliette made the jewelry box shown below. The jewelry box was shaped like a right rectangular prism.**



What was the volume, in cubic centimeters, of the jewelry box?

A 17 **B** 37 **C** 160 **D** 184

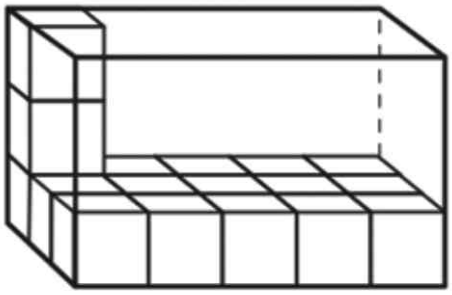
Q3. **The fifth-grade classes at Brookfield School used five identical buses to go on a field trip.**

There were a total of 40 seats on each bus.
All of the seats on four buses were filled.
The fifth bus had 4/5 of the seats filled.
1/8 of all the passengers on the buses were adults.

How many adults went on the field trip with the fifth-grade classes?

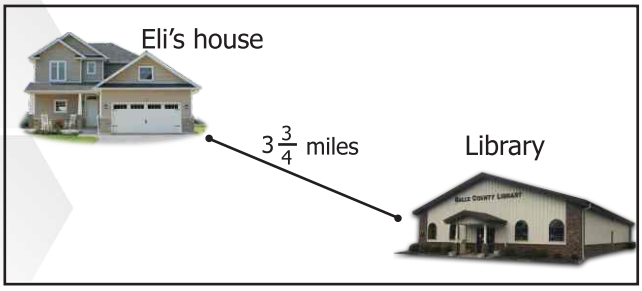
A 20 **B** 24 **C** 25 **D** 32

Q4. **Rashad is filling a toy box with wooden blocks that are each a unit cube in size. He filled the bottom layer of a toy box with 15 wooden blocks. He then stacked two more wooden blocks on top of the bottom layer. The partially filled toy box is shown below. What was the total volume, in cubic units, of the toy box?**



A 15 **B** 17 **C** 30 **D** 45

Q5. **Eli lives $3\frac{3}{4}$ miles from the library.**



He decided to bike from his home to the library to return some book. Eli biked $1\frac{1}{10}$ miles when he remembered that he had left a book at home, so he biked back home to get it. After getting the book from home, he biked to the library. What was the total distance, in miles. Eli had biked when he finally reached the library?

A $1\frac{4}{5}$ **B** $2\frac{2}{5}$ **C** $3\frac{19}{20}$ **D** $5\frac{19}{20}$

Q6. **There are 12 players on a new softball team. Before the team starts playing games, the team must pay a total registration fee of $572. Along with the registration fee, the team will also need to spend a total of $1,240 on equipment.**

To pay for the cost of the registration fee and the equipment, the players held a car wash and raised $786. They then decided to sell candles for $9.50 per candle to cover the remaining costs. If each player sells the same number of candles, how many candles must each player sell?

A 5 **B** 7 **C** 9 **D** 11

Q7. **Arnold's entire workout consisted of 10 minutes of warm-up exercises, 25 minutes of lifting weights, and 15 minutes on the treadmill. What was the ratio of the number of minutes he lifted weights to the total number of minutes of his entire workout?**

A 1 : 1 **B** 1 : 2 **C** 3 : 10 **D** 5 : 8

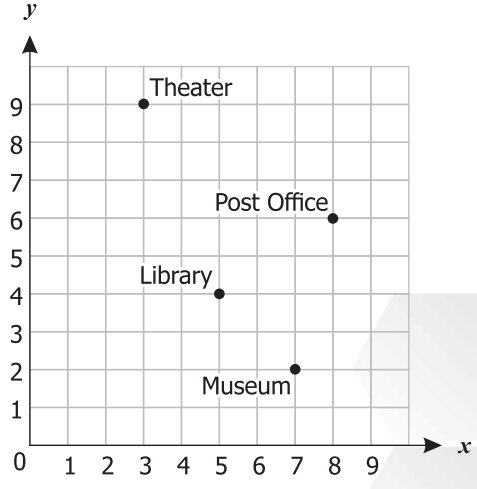
Q8. **A punch recipe requires 2 cups of cranberry juice to make 3 gallons of punch. Using the same recipe, what is the amount of cranberry juice needed for 1 gallon of punch?**

A 3 cups **B** $1\frac{1}{2}$ cups **C** 1 cup **D** $\frac{2}{3}$ cup

Q9. **The points plotted on the coordinate grid below show different locations in a city. The grid lines represent the city's streets.**

The city plans to build a parking lot at the location represented by the coordinates (8 , 4) . Which building is the shortest driving distance from the parking lot?

A theater
B library
C museum
D post office



Q10. **A company paid $48 for 2 cases of printer paper. Each case contained 12 packages of paper. Next month the company's office manager needs to order 180 packages of the same paper. If the price per package does not change, what would be the total cost of next month's order?**

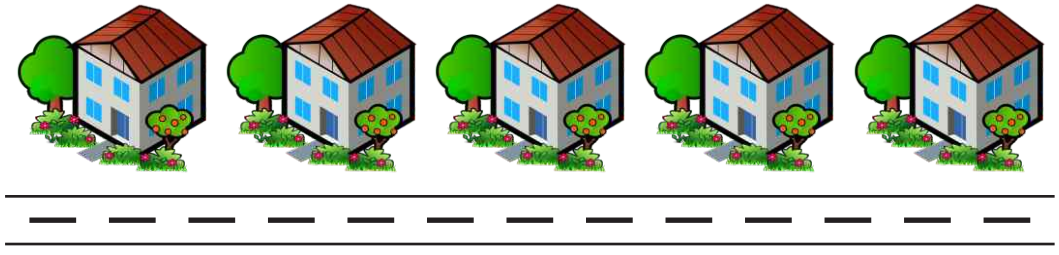
A $90 **B** $360 **C** $720 **D** $1,140

Q11. **The picture below shows the five houses on Maple Street and the five houses on Oak Street.**

6 Maple St.

Maple St.

4 Oak St.



Oak St.

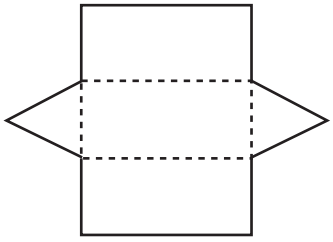
Each house number on Maple Street is six more than the house number to its left.

Each house number on Oak Street is eight more than the house number to its left.

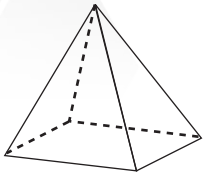
How much greater is the house number of the last house on Oak Street than the house number of the last house on Maple Street?

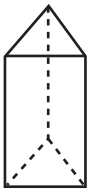
A 2 **B** 6 **C** 8 **D** 10

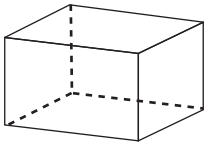
Q12. **The net below represents a three-dimensional object.**

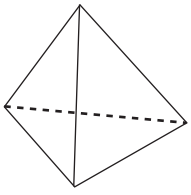


Which three-dimensional object can be formed from the net?

A 

B 

C 

D 

Q13. **Keith wants to plot – 8 and – 9 on a number line. Which statement is true?**

A Keith should plot – 8 to the left of – 9 because – 8 < – 9.

B Keith should plot – 8 to the left of – 9 because – 8 > – 9.

C Keith should plot – 9 to the left of – 8 because – 9 < – 8.

D Keith should plot – 9 to the left of – 8 because – 9 > – 8.

Q14. **Yesterday, the temperature at noon was 11.4 °F. By midnight, the temperature had decreased by 15.7 degrees. What was the temperature at midnight?**

A -4.3°F **B** -11.4°F **C** -15.7°F **D** -27.1°F

Q15. **A biologist counted the number of two types of salmon (Chinook and Steelhead) at a dam. He used the table below to record the number of salmon on different days. On day 5, the biologist counted 16 Chinook. If the ratio of Chinook to Steelhead remained the same as on the previous four days, how many Steelhead should the biologist expect to count on day 5?**

NUMBER OF SALMON TYPES COUNTED

Day	Chinook	Steelhead
1	4	10
2	12	30
3	8	20
4	6	15
5	16	

A 20 **B** 36 **C** 40 **D** 48

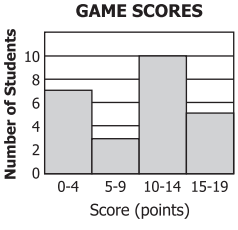
Q16. **Jared surveyed the students in his class to determine how they scored in a game. He displayed his results in the table shown below.**

GAME SCORES

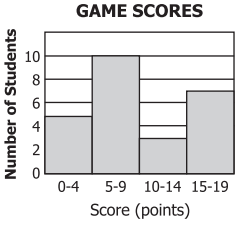
Score (points)	Number of Students
0 to 4	5
5 to 9	10
10 to 14	3
15 to 19	7

Which histogram represents the data in the table?

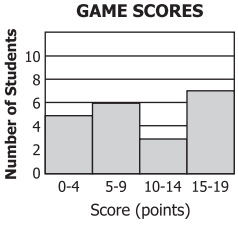
A



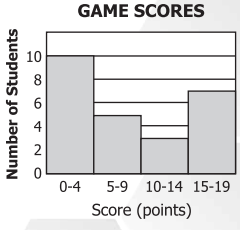
B



C



D

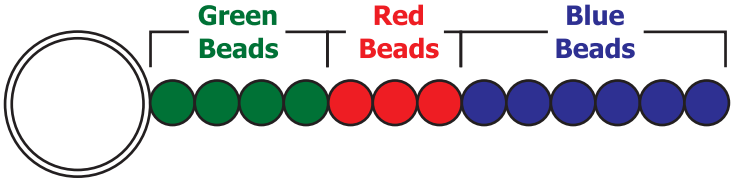


Q17. **During a sale, a store offered a 40% discount on a particular camera that was originally priced at $450. After the sale, the discounted price of the camera was increased by 40%. What was the price of the camera after this increase?**

A $252 **B** $360 **C** $378 **D** $450

Q18. **Sharon wants to make key chains with different-colored beads, as shown below.**

KEY CHAIN



Each key chain will look the same. Sharon will use a total of 20 green beads to make all her key chains. What is the number of red beads and the number of blue beads she will need to make all of the key chains?

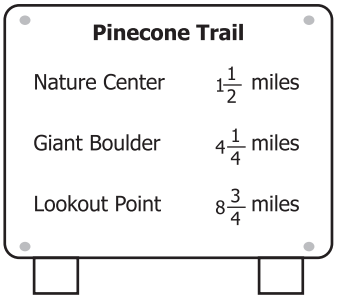
A 6 Red and 12 Blue **B** 9 Red and 18 Blue

C 12 Red and 24 Blue **D** 15 Red and 30 Blue

Q19. **Josh went to the carnival with $12.24. It cost him $5.00 for admission and $0.75 for each ride. Josh bought one drink for $1.25, and he rode as many rides as he could afford. If Josh did not buy anything else, how much money did he have when he left the carnival?**

A $0.01 **B** $0.24 **C** $0.49 **D** $0.74

Q20. **The sign below is located at the start of Pinecone Trail and shows the distances from the sign to different points of interest along the trail.**



Sage hiked from the start of the trail to Lookout Point. She then hiked back to Giant Boulder to camp for the night. What was the total distance, in miles, that Sage hiked?

A $21\frac{3}{4}$ **B** $13\frac{1}{4}$ **C** $4\frac{1}{2}$ **D** $4\frac{1}{4}$

Q21. **Which kind of numbers, when multiplied together, have a product that is an odd number?**

A even x even x even
B even x even x odd
C odd x odd x even
D odd x odd x odd

Q22. **A scientist studied the migration patterns of two types of whales.**

The humpback whales traveled 2,240 miles in 28 days.
The gray whales traveled 2,368 miles in 32 days.

If the humpback whales had traveled at the same rate for 32 days, how many more miles would they have traveled than the gray whales?

A 128 **B** 192 **C** 280 **D** 408

Q23. **The table below shows different possibilities for the number of games a team would need to win to maintain a certain percentage of wins.**

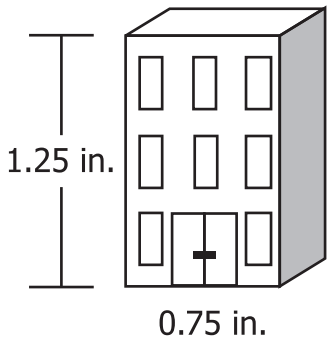
POSSIBLE BASEBALL GAMES WON

Number of Games Won	Number of Games Played
6	10
24	40
36	60
42	70

Which ration the number of games won to the number of games played could also be included in this table?

A 18 : 20 **B** 30 : 20 **C** 18 : 30 **D** 50 : 30

Q24. **The drawing of a building, shown below, has a scale of 1 inch to 30 feet.**



What is the actual height, in feet, of the building?

A 22.5 **B** 24 **C** 37.5 **D** 40

Q25. **A trailer will be used to transport several 40-kilogram crates to a store. The greatest amount of weight that can be loaded onto the trailer is 1,050 kilograms. An 82-kilograms crate has already been loaded onto the trailer. What is the greatest number of 40-kilogram crates that can also be loaded onto the trailer?**

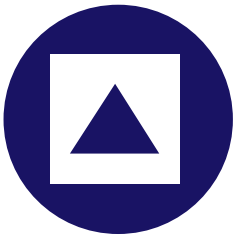
A 24 **B** 25 **C** 26 **D** 27

Q26. **Kendra drew a circle. Inside the circle she drew a triangle. Inside the triangle she drew a square. Which design did Kendra draw?**

A

B

C



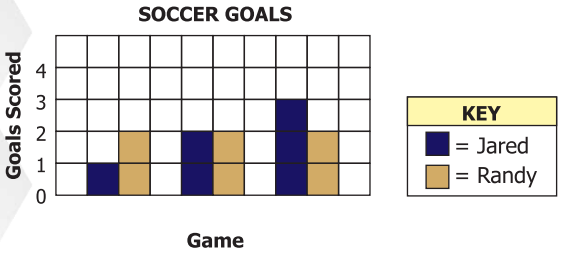
D

Q27. **What is the missing number in the pattern below?**

2	**6**	**18**	**54**	**?**	**486**

A 72 **B** 90 **C** 108 **D** 162

Q28. **Jared and Randy played in three soccer games. The graph below shows the number of goals they scored in each game.**



Which statement is true about Jared's and Randy's goals?

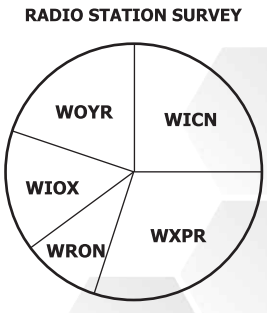
A Jared always scored more goals than Randy.
B Randy always scored more goals than Jared.
C The number of goals Jared scored increased each game.
D The number of goals Randy scored increased each game.

Q29. **Tina is making a scale model of a monument that is 155 feet tall. She uses a scale of 1 inch = 5 feet. How tall should Tina make her model?**

A 5 inches **B** 8 inches **C** 13 inches **D** 31 inches

Q30. **The circle graph below shows the favorite radio stations of the students in Julie's school.**

Julie's teacher asks her to estimate what percent of the students chose WXPR. Which best represents the percent of students who chose WXPR?



A 10%
B 25%
C 30%
D 45%

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Student Name	Father Name	Grade	School
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FILZA ALI	ALI RAZA	2	ARMY PUBLIC SCHOOL COD
M. ZARAR HAIDER	FAHEEM HASSAN	3	MEEZAN SCHOOL (MAIN CAMPUS)
IMAD AHMAD	BAHARUDDIN	4	ARMY PUBLIC SCHOOL & COLLEGE SWAT
WANIA ALI	SAFDAR ALI	4	LAHORE GRAMMAR SCHOOL (LANDMARK PROJECT)
QASIM RASOOL	FAIZ UR RASOOL	4	ARMY BURN HALL COLLEGE FOR GIRLS
M. RAFFAY KUNDI	AFIF NASEER KUNDI	5	THE SCIENCE SCHOOL
AYESHA JUNAID	MUHAMMD JUNAID	5	LAHORE GRAMMAR SCHOOL
ARYAN HASSAN	AFARASAYAB HASSAN	5	THE CITY JUNIOR SECTION CANAL
TAHER MURTAZA	MURTAZA BHINDERWALA	6	MSB EDUCATIONAL INSTITUTE
AREEJ AMIR	AMIR MASOOD	7	KARACHI PUBLIC SCHOOL
MUHAMMAD ALI	MUHAMMAD NAVEED	8	THE SCIENCE SCHOOL
ZOIBA RIAZ	RIAZ HUSSAIN	9	THE CITY SCHOOL RAHIM YAR KHAN
WAJAHAT MIRZA	ARIF MEHMOOD	10	KOHINOOR GRAMMAR SCHOOL & COLLEGE

National Toppers ICATS IT Contest 2018

Congratulations

Student Name	Father Name	Grade	School
NOOR FATIMA	IMRAN ALI	1	HALIMAH SCHOOL OF EXCELLENCE
MUHAMMAD AFAQ	TAYYAB GHAFFAR	2	MEEZAN SCHOOL (CITY CAMPUS)
UMAR YOUSAF	MUHAMMAD YOUSAF	3	ARMY PUBLIC SCHOOL GARRISON JUNIOR LAHORE CANTT
AAN ZAHRA RANA	RANA	3	ARMY PUBLIC SCHOOL (GIRLS BRANCH)
RIDA YASIR	M. YASIR SALEEM	4	THE CITY SCHOOL (GULSHAN JUNIOR CAMPUS)
MUHAMMAD HAMIZ	MUHAMMAD ADIL	5	AL-QALAM GRAMMAR SCHOOL HAJIWALA
WAJAHAT ALI SHAFIQ	MUHAMMAD SHAFIQ	6	QUAID E AZAM DIVISIONAL PUBLIC SCHOOL
NASHRAH	SHEHZAD	7	GUARDS PUBLIC SCHOOL
ANEES HAMID	HAMID BASHIR	8	PAK TURK INTERNATIONAL SCHOOL AND COLLEGE
LAIBA GABOL	SALEEM GABOL	9	HABIB GIRLS' SCHOOL
AHMED ALI	M . AUN	10	MSB EDUCATIONAL INSTITUTE

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Answer Sheet

INSTRUCTIONS

- This is a generic answer sheet to be used by participants of all grades. Students of Grade 1-2 will fill in circles of first 20 questions, Grade 3-4 will fill in circles of 25 questions and Grade 5-10 will fill in circles of 30 questions.
- Please recheck your Name, Father Name, Grade and School written below, the same would appear at your certificate.
- Use of lead pencil is not allowed.
- Use only Black / Blue ink to fill in the circles.

ICATS Mathematics Contest 2019
Grade 7-8

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled table of answers.

(A) (B) (C) (D) Correct Filling Answer **"C"**

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1	C	11	B	21	D
2	C	12	B	22	B
3	B	13	C	23	C
4	D	14	A	24	C
5	D	15	C	25	A
6	C	16	B	26	D
7	B	17	C	27	D
8	D	18	D	28	C
9	D	19	D	29	D
10	B	20	B	30	C

ICATS MATHEMATICS CONTEST 2021

Question Booklet

GRADE 7 & 8
JUVENILES

Time Allowed: 90 Mins.
Maximum Marks: 90

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COMPETENCE & APTITUDE TESTING SERVICES
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ICATS MATHEMATICS CONTEST 2021

JUVENILES (GRADE 7 & 8)

TIME ALLOWED : 90 MINUTES, MAXIMUM MARKS : 90

TOTAL QUESTIONS : 30 MCQS

INSTRUCTIONS

1. DON'T START ATTEMPTING THE PAPER UNTIL INSTRUCTED BY THE INVIGILATORS.
2. INSTRUCTIONS FROM THE EXAMINATION INVIGILATORS MUST BE CARRIED OUT PROMPTLY.
3. CAREFULLY RECHECK YOUR NAME, FATHER NAME, SCHOOL NAME, ADDRESS ETC AT THE BUBBLE SHEET / ANSWER SHEET.
4. RECORD ALL ANSWERS ON THE BUBBLE SHEET ONLY. SELECT BEST ANSWER FROM THE FOUR GIVEN OPTIONS AND MARK ONLY ONE OPTION IN EACH QUESTION.
5. USE BLUE / BLACK INK TO FILL UP THE CIRCLES FOR YOUR ANSWERS ON THE BUBBLE SHEET. USE OF LEAD PENCIL IS NOT ALLOWED.
6. USE OF ANY HELPING MATERIAL INCLUDING CELL PHONES AND ELECTRONIC DEVICES IS STRICTLY PROHIBITED.
7. EVERY CORRECT ANSWER EARNS THREE POINTS. THERE WOULD BE NEGATIVE MARKING. ONE POINT WOULD BE DEDUCTED FOR EVERY INCORRECT ANSWER.
8. CANDIDATES MAY NOT LEAVE THE EXAMINATION ROOM UNESCORTED FOR ANY REASON, AND THIS INCLUDES USING THE WASHROOM.
9. NO MATERIALS OR ELECTRONIC DEVICES SHALL BE BROUGHT INTO THE ROOM.
10. THERE ARE FIVE CATEGORIES OF THE CONTEST AS UNDER:
    - A. TODDLERS (GRADE 1 & 2)
    - B. KIDS (GRADE 3 & 4)
    - C. JUNIORS (GRADE 5 & 6)
    - D. JUVENILES (GRADE 7 & 8)
    - E. ADOLESCENTS (GRADE 9 & 10 / O-LEVELS)
11. ONLY REGISTERED STUDENTS CAN PARTICIPATE IN THE CONTEST.
12. NO CANDIDATE SHALL TAKE OUT OF THE HALL ANY ANSWER BOOK(S) OR PART OF AN ANSWER BOOK, WHETHER USED OR UNUSED, OR OTHER SUPPLIED MATERIAL.
13. IF A PARTICIPANT DOES NOT UNDERSTAND A WORD OR PHRASE ON THE EXAM PAPER, NEITHER EXAMINER NOR INVIGILATOR IS PERMITTED TO ANSWER.
14. FOR INFORMATION ABOUT UPCOMING CONTESTS OR PROVIDING VALUABLE FEEDBACK, PLEASE VISIT WWW.CATSCONTESTS.ORG
15. ANY ACADEMIC MISCONDUCT OR MALPRACTICE MUST BE REPORTED TO INTERNATIONAL CATS CONTESTS AT INFO@CATSCONTESTS.ORG

Q1. **If U is denoted by 7, M by 2, I by 5, O by 1, K by 8 and J by 4, then what will be the numeric form of the word MOUJIK when written in the reverse order?**

A 217458 **B** 845712 **C** 854712 **D** 857412

Q2. **If 'AND' is written as 'EQF' and 'THE' as 'XKG' then how will 'COM' be written?**

A HRO **B** GQO **C** GRO **D** GRN

Q3. **How many letters of the word FAINTS will in their order in the word and that when the letters are arranged in the alphabetical order, remain at the same place?**

A Two **B** One **C** Three **D** Nil

Q4. **A 25% fall is reversed.**
What is the percentage rise?

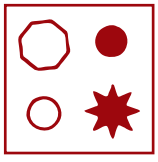
A A 20% rise **B** A 25% rise **C** A 25.64% rise **D** A 33.33% rise

Q5. **Tiberius was Roman Emperor at the time of Jesus. Tiberius was born in November 42 BC and died in March 37 AD. How old was Tiberius when he died?**

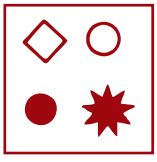
A 77 years **B** 78 years **C** 79 years **D** 80 years

Q6. **Which of the options given below will correctly complete the series?**

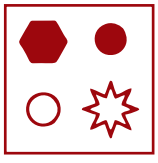
A



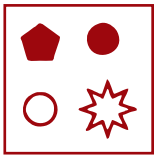
C

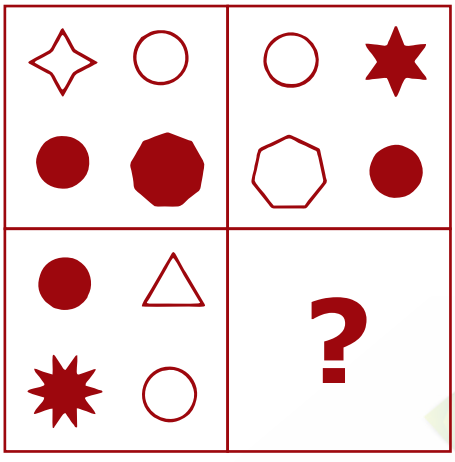


B



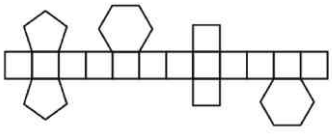
D



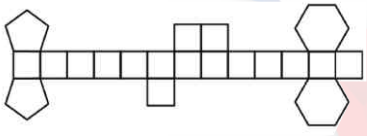


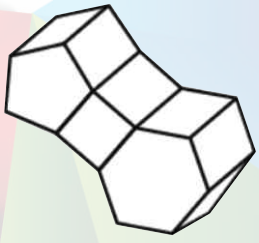
Q7. **Identify which option given below can be folded to make the 3D object in the picture shown below.**

A

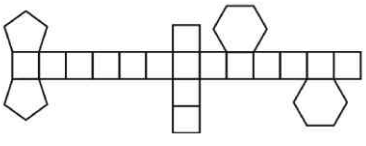


C

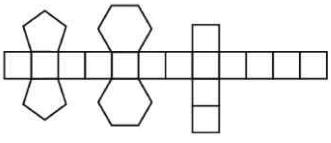




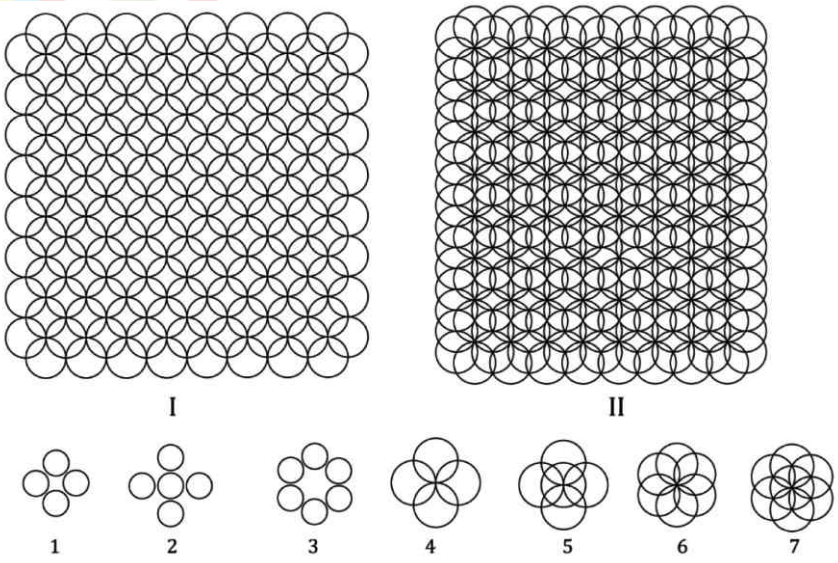
B



D



Q8. **Below are two patterns created by a repetition of circles. For each of the patterns, identify the configuration of circles from which it has been created, from the set of options given below and then answer the question that follows.**



Which of the following statements is TRUE?

A I can be created from 3 and 4; and II can be created from 5 and 6

B I can be created from 1 and 2; and II can be created from 5, 6 and 7

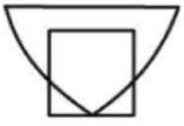
C I can be created from 4; and II can be created from 6

D I can be created from 4 and 5; and II can be created from 6 and 7

Q9. **Shown below is an image made from line segments. Identify the element, from the options at right, which is NOT part of the image.**

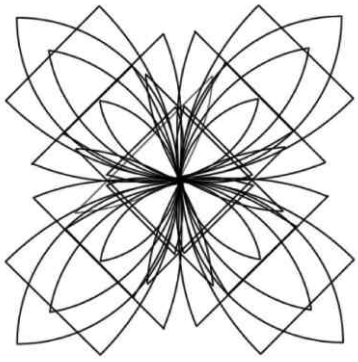
A

C

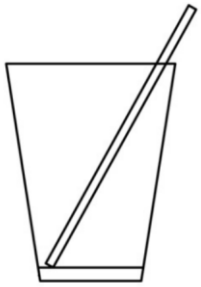


B

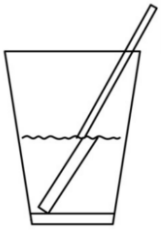
D



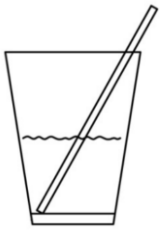
Q10. **An empty glass with a straw in it is shown below. From the options given, identify the correct representation of the straw when the glass is half-filled with water.**



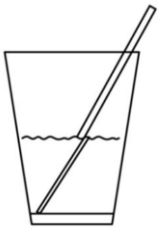
A



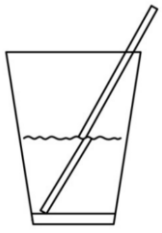
B



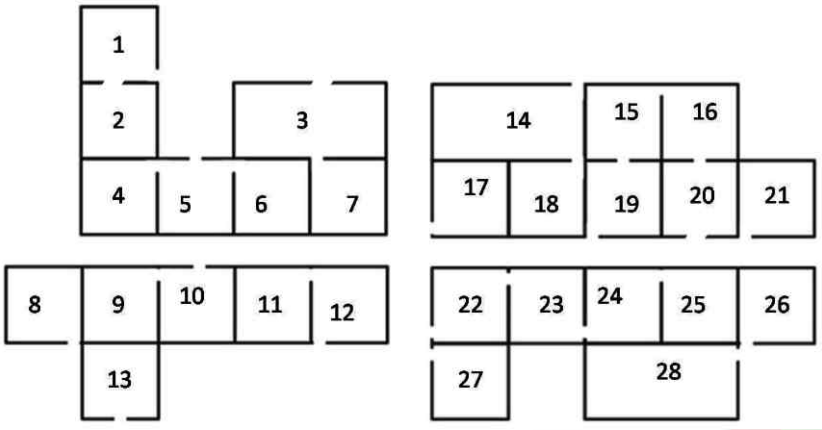
C



D



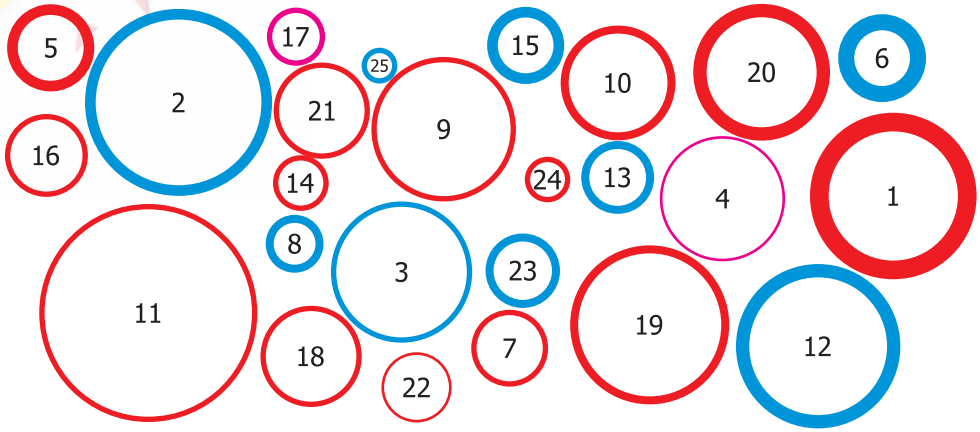
Q11. **Privacy of a space depends on the level of closure it has from its surroundings i.e. the difficulty of accessing that space from outside the house. The figure below shows the plans of four houses at a village street junction. Which is the most private room amongst all the rooms across all the houses?**



A 6 **B** 9 **C** 16 **D** 25

Q12. **30 circles are given below, with a set of following rules:**
1. The bigger the circle, the farther away it is from us.
2. The thinner the line of the circle, the closer it is to us.
3. The red circles are farther away from us as compared to the blue circles.

Which of the options given below is TRUE?



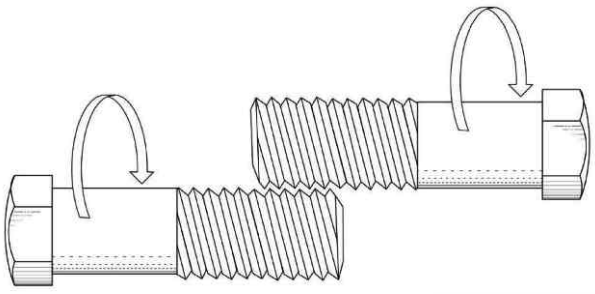
A Circle 25 is the closest to us

B Circle 25 is farthest from us

C Circle 24 is closer to us than circle 14

D Both, option A and C are true

Q13. **Shown below are two metal bolts. Suppose they were to be rotated (at the same rate) in the two directions as shown by the two arrows respectively, what would happen to the distance between the two bolt heads?**



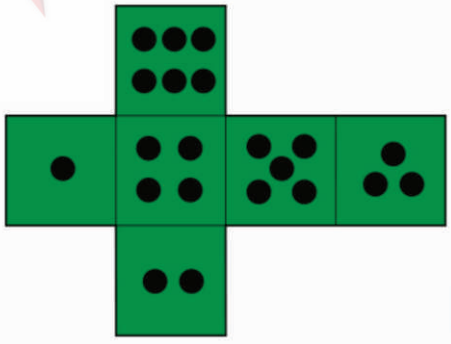
A Move closer to each other

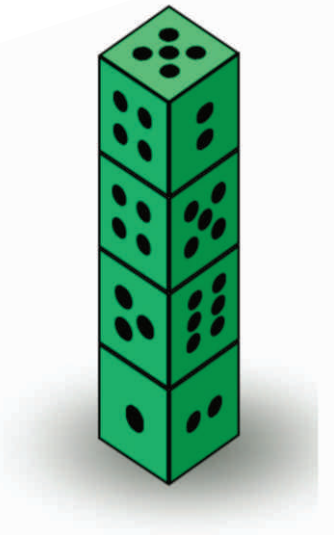
B Move farther apart from each other

C Remain at the same distance from each other

D The bolts cannot be rotated

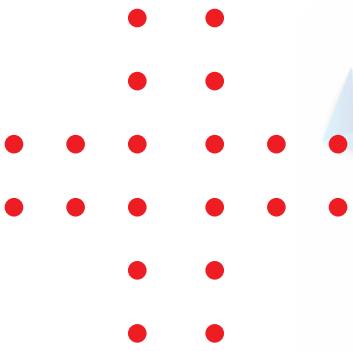
Q14. **Figure to the left shows an unfolded pattern of a die. If four such identical dice are stacked one on top of another, as shown on the right, what is the sum of the numbers appearing on the faces which are parallel to the ground?**





A 24 **B** 27 **C** 30 **D** 33

Q15 **Twenty points are arranged on a plane as shown in the figure below. What is the highest number of squares that can be drawn using any four points as corners?**

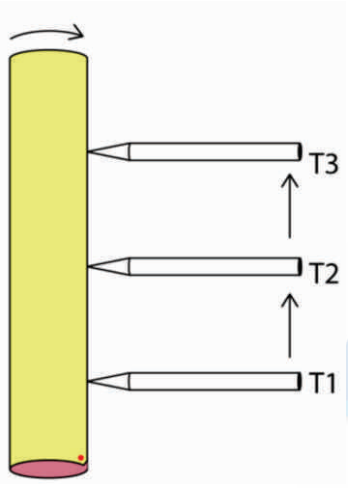


A 17 **B** 19 **C** 21 **D** 23

Q16. **A family of four—grandfather, father, son and daughter—are caught in a heavy rain and are stranded at a bus stop close to their home. However they have only one umbrella with them.**
The umbrella can take a maximum of two people without either of them getting wet. The four members of the family take different times to walk from bus stop to home. The grandfather is slowest of all, taking 10 minutes, followed by the father who takes 5 minutes. The son takes 2 minutes, while the daughter takes only a minute. What is the minimum total time (in minutes) for all four members of the family to reach home without any of them getting wet?

A 13 **B** 15 **C** 17 **D** 19

Q17. **A rolled yellow paper cylinder is rotating clockwise direction at a constant rate of 1 revolution / 60 seconds. A pencil is touching the paper cylinder and is moving from T1 to T2 in 10 seconds and stops for 10 seconds. Then it moves to T3 in next 40 seconds (total time=60 seconds) as shown in the figure below. What would be the graph on paper when it is unrolled?**



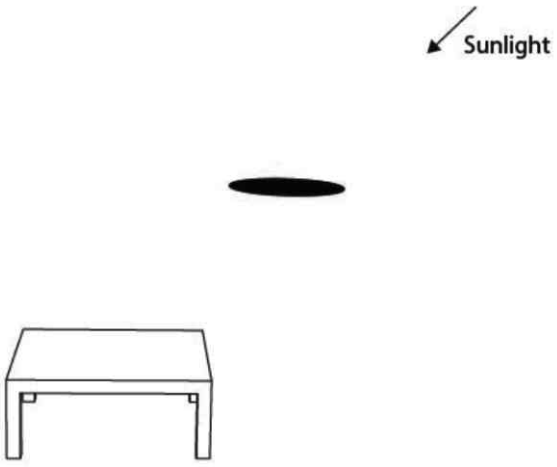
A

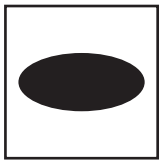

B

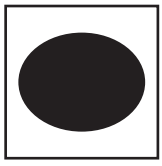

C


D

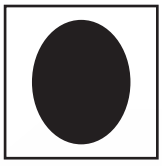

Q18. An opaque circular disc is parallel to the table top. A beam of sunlight casts its shadow on the table top as shown in the figure. Which of the options represents the shape of the shadow as seen in the top view of the table?



A 

B 

C 

D 

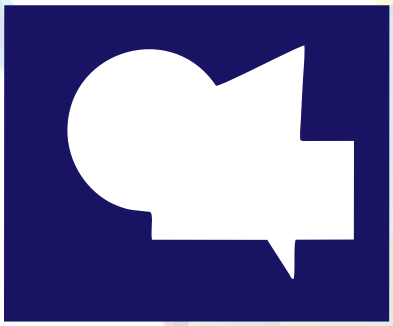
Q19. Which red shape from the options will match the white shape in the figure, using simple rotation.

A 

C 

B 

D 



Q20. **Yesterday, the temperature at noon was 13.4°F. By midnight, the temperature had decreased by 15.7 degrees. What was the temperature at midnight?**

A -2.3 °F **B** -11.4 °F **C** -15.7 °F **D** -27.1 °F

Q21. **During a sale, a store offered a 40% discount on a particular camera that was originally priced at $450. After the sale, the discounted price of the camera was increased by 40%. What was the price of the camera after this increase?**

A $252 **B** $360 **C** $378 **D** $450

Q22. **Gary buys a $3\frac{1}{2}$ pound bag of cat food every 3 weeks. Gary feeds his cat the same amount of food each day. Which expression can Gary use to determine the number of pounds of cat food his cat eats each year? (1 year = 52 weeks)**

A $\frac{7}{2} \times \frac{52}{3}$ **B** $\frac{7}{2} \times \frac{3}{52}$ **C** $3\left(\frac{1}{2} \times \frac{3}{52}\right)$ **D** $3\left(\frac{1}{2} \times \frac{52}{3}\right)$

Q23. **The school bus Hina rides is scheduled to arrive at her stop at 8:20 a.m. each day. The table below shows the actual arrival times of the bus for several days that were randomly selected over the past few months.**

Based on these data, what is the probability that the bus will arrive at Hina's stop before 8:20 a.m. tomorrow?

A $\frac{3}{10}$ **C** $\frac{7}{20}$

B $\frac{1}{3}$ **D** $\frac{13}{20}$

BUS ARRIVAL TIMES (a.m.)

8:21	8:21	8:19	8:20	8:23
8:22	8:20	8:18	8:20	8:18
8:21	8:20	8:19	8:17	8:25
8:20	8:20	8:18	8:19	8:24

Q24. **Each sales associate at an electronics store has a choice of the two salary options shown below.**

- **$115 per week plus 9.5% commission on the associate's total sales**
- **$450 per week with no commission**

The average of the total sales amount for each associate last year was $125,000. Based on this average, what is the difference between the two salary options each year? (52 weeks = 1 year)

A $4,262.11 **B** $5,545.00 **C** $10,956.90 **D** $11,525.00

Q25. **Travis, Jessica, and Robin are collecting donations for the school band. Travis wants to collect 20% more than Jessica, and Robin wants to collect 35% more than Travis. If the students meet their goals and Travis collects $43, how much money did they collect in all?**

A $106.78 **B** $128.60 **C** $136.88 **D** $144.99

Q26. **A dealer paid $10,000 for a boat at an auction. At the dealership, a salesperson sold the boat for 30% more than the auction price. The salesperson received a commission of 25% of the difference between the auction price and the dealership price. What was the salesperson's commission?**

A $750 **B** $1,750 **C** $3,250 **D** $5,500

Q27. **Malika and Adrian prepared containers of potato salad at a deli. Each container was supposed to have a mass of one pound. The manager selected a random sample of containers prepared by each employee to check the mass of each container. The results are shown in the table below.**

MASS OF EACH CONTAINER

Malika's Containers (pounds)	Adrian's Containers (pounds)
1.10	1.30
1.08	1.21
1.05	0.79
0.95	0.90
0.98	0.88

Which inference is best supported by these data?

A Malika will produce more containers with a mass of exactly one pound than Adrian will.

B Adrian will produce more containers with a mass of exactly one pound than Malika will.

C Most of Malika's containers will have a mass closer to one pound than most of Adrian's containers.

D Most of Adrian's containers will have a mass closer to one pound than most of Malika's containers.

Q28. **Salid bought 35 feet of window trim at a hardware store. The trim cost $1.75 per foot, including sales tax. If Salid paid with a $100.00 bill, how much change should he has received?**

A $20.00 **B** $38.75 **C** $61.25 **D** $80.00

Q29. **Three friends own a landscaping business. The number of hours each friend spent on the same project is shown in the table below.**

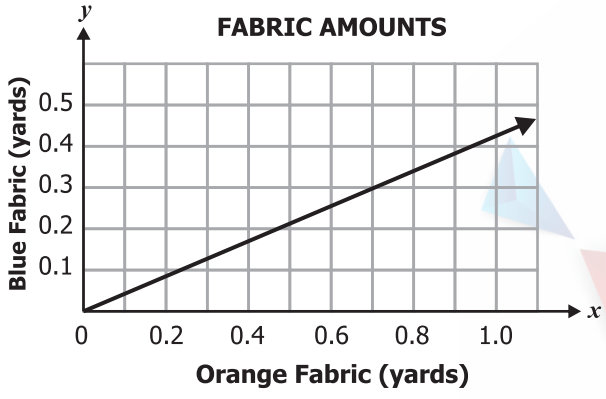
HOURS WORKED ON LANDSCAPING PROJECT

Name	Hours Worked
Asif	$17\frac{1}{4}$
Ali	$18\frac{1}{4}$
Ahmad	$14\frac{1}{2}$

In total, they earned $850 for the job. They put 15% of this amount into a joint savings account for further expenses. They then divided the rest proportionally based on the numbers of hours each worked. How much money did Ahmad receive?

A $209.53 **B** $240.83 **C** $283.48 **D** $295.11

Q30. **Maya uses blue and orange fabric to make identical wall decorations. The graph below shows the relationship between the amounts of blue and orange fabric used.**



What is the constant of proportionality as shown in the graph?

A $\frac{3}{10}$ **B** $\frac{2}{5}$ **C** $\frac{3}{7}$ **D** $\frac{1}{2}$

National Toppers ICATS ART Contest 2020

Student Name	Father Name	Grade	School
MUNTAHA ABASSI	MUNEER AHMED	1	PAKTURK MAARIF INTERNATIONAL SCHOOL
EMAAN FATIMA NAQVI	SYED ARIF HUSSAIN	2	ARMY PUBLIC SCHOOL AND COLLEGE
MUHAMMAD UMAIR	YOUNAS MUHAMMAD MUGHAL	3	BEACONHOUSE SCHOOL SYSTEM
AHMED KHAN	M. BILAL KHAN	4	KARACHI CAMBRIDGE SCHOOL
FABIHA RASHID	M. RASHID	5	LAHORE GRAMMAR SCHOOL
AYESHA ARSHAD	RANA M. ARSHAD	6	PAKISTAN INTERNATIONAL PUBLIC SCHOOL
AREEBA AHMAD	MATEEN AHMED	7	KIPS SCHOOL
MANAHIL AHMED	KHAWAJA MUSHTAQ AHMED	8	USMAN PUBLIC SCHOOL SYSTEM (CAMPUS 14)
SHIFA NOORANI	SIRAJ NOORANI	9	LEADERSHIP SCHOOL
ESHA SALMAN	MUHAMMAD SALMAN BUTT	10	THE EDUCATORS

Congratulations

National Toppers ICATS Creative Writing Contest 2020

Student Name	Father Name	Grade	School
ALIYA HASNAIN	HASNAIN NAQVI	1	LAHORE GRAMMAR SCHOOL
AHMED KAMAL	MAJ. MUHAMMAD KAMAL	2	ARMY PUBLIC SCHOOL
BURHANUDDIN	M. HUSAIN KOTHARI	2	MSB EDUCATIONAL INSTITUTE
AMNA AZEEM	MUHAMMAD FAISAL	3	THE LEARNING CASTLE SCHOOL
ZARA KHALID	KHALID HAKIM	4	USMAN PUBLIC SCHOOL SYSTEM (CAMPUS 14)
HARIS A	ANWAR	5	PESHAWAR MODEL SCHOOL
KHADIJA HASNAIN	HASNAIN QADRI	6	LAHORE GRAMMAR SCHOOL
MERAL AZMAT	AZMAT KHAN	7	BEACONHOUSE SCHOOL SYSTEM
AMINA NOOR	MUHAMMAD JAHANGIR	8	FAUJI FOUNDATION MODEL SCHOOL
INSHAL	ISRAR KHAN	9	KOHINOOR GRAMMAR SCHOOL
AREESHA IMTIAZ	IMTIAZ ALI	10	HABIB GIRLS' SCHOOL

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Answer Sheet

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- Use of lead pencil is not allowed.
- Use only Black / Blue ink to fill in the circles.

MATHEMATICS CONTEST 2021
(Grade 7-8)

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled table of answers.

(A) (B) (C) (D) Correct Filling Answer **"C"**

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

(A) (B) (C) (D) wrong filling

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1	(A) (B) ● (D)	11	(A) (B) (C) ●	21	(A) (B) ● (D)
2	(A) (B) ● (D)	12	(A) (B) (C) ●	22	● (B) (C) (D)
3	● (B) (C) (D)	13	(A) (B) ● (D)	23	(A) (B) ● (D)
4	(A) (B) (C) ●	14	(A) ● (C) (D)	24	(A) ● (C) (D)
5	● (B) (C) (D)	15	(A) (B) ● (D)	25	(A) (B) ● (D)
6	(A) (B) (C) ●	16	(A) (B) (C) ●	26	● (B) (C) (D)
7	(A) ● (C) (D)	17	● (B) (C) (D)	27	(A) (B) ● (D)
8	(A) (B) (C) ●	18	(A) (B) ● (D)	28	(A) ● (C) (D)
9	(A) (B) ● (D)	19	(A) (B) ● (D)	29	● (B) (C) (D)
10	● (B) (C) (D)	20	● (B) (C) (D)	30	(A) (B) ● (D)

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2022
QUESTION BOOKLET

GRADE 7 & 8
JUVENILES

Time Allowed: 90 Mins.
Maximum Marks: 90

ICATS
MATHEMATICS
CONTEST 2022

ICATS MATHEMATICS CONTEST 2022

JUVENILES (GRADE 7 & 8)

TIME ALLOWED : 90 MINUTES, MAXIMUM MARKS : 90
TOTAL QUESTIONS : 30 MCQS

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Q1. **Which of the following would be an appropriate unit to measure sugar for a cookie recipe?**

A liters **B** cups **C** kilograms **D** pounds

Q2. **Usain Bolt set a world record of 9.58 seconds for the 100 meter dash. White-tailed deer can run at 48 kilometers per hour for short periods. If Mr. Bolt and a white-tailed deer run a 100 meter dash at these speeds, who would win, and by how much?**

A Mr. Bolt wins by 3.75 seconds
B Mr. Bolt wins by 2.08 seconds
C Deer wins by 3.75 seconds
D Deer wins by 2.08 seconds

Q3. **After getting his wisdom teeth pulled, Matt was prescribed 60mg of Codeine to be taken every 4 hours for 5 days. The pharmacy has 30mg pills. How many pills should Matt receive when filling the prescription?**

A 72 **B** 60 **C** 30 **D** 24

Q4. **Derek is purchasing lunch meat for the class picnic. There are 300 people attending the picnic. Derek expects that for every 10 people 11 sandwiches will be eaten and that 20 pounds of meat will make 90 sandwiches. How much lunch meat should Derek buy?**

A $73^{1/3}$ pounds **B** $67^{2/3}$ pounds **C** 110 pounds **D** 330 sandwiches

Q5. **If the 9th day of a month is 4 days earlier than Wednesday, what will be the 20th day of the month?**

A Monday B Tuesday C Wednesday D Thursday

Q6. **40% of a number is more than 20% of 650 by 190. Find the number?**

A 600 B 700 C 800 D 900

Q7. **Today is Khadija's birthday. After one year, she will become two times as she was ten years ago. What is the current age of Khadija?**

A 19 B 20 C 21 D 22

Q8. **Mansoor-Ul-Haque and Aaqib are working on a special assignment. Mansoor-Ul-Haque needs 6 hours to type 32 pages on a computer and Aaqib needs 5 hours to type 40 pages. If both of them work together on two different computers, how much time is needed to type an assignment of 110 pages?**

A 7 hour 15 minutes
B 7 hour 30 minutes
C 8 hour 15 minutes
D 8 hour 30 minutes

Q9. **Joey participated in a dance-a-thon. His team started dancing at 10:00am on Friday and stopped at 6:00pm on Saturday. How many hours did Joey's team dance?**

A 52 **B** 56 **C** 30 **D** 32

Q10. **Sherman took his pulse for 10 seconds and counted 11 beats. What is Sherman's pulse rate in beats per minute?**

A 210 beats per minute
B 110 beats per minute
C 66 beats per minute
D 84 beats per minute

Q11. **A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, the son's age five years back was?**

A 33 years **B** 19 years **C** 14 years **D** 38 years

Q12. **Max goes to the gym every fourth day. Ellen's exercise routine is to go every third day. Today is Monday and both Max and Ellen are at the gym. What will the day of the week be the next time they are BOTH at the gym?**

A Sunday **B** Wednesday **C** Friday **D** Saturday

Q13. **The average of the marks of 12 students in a class is 36. If the marks of each student are doubled, find the new average?**

A 72 **B** 45 **C** 37 **D** 79

Q14. **A total of 300 chocolates were distributed among 120 boys and girls such that each boy received 2 chocolates and each girl received 3 chocolates. Find the respective number of boys and girls?**

A 70, 50 **B** 60, 60 **C** 50, 70 **D** 40, 80

Q15. **The average of 20 numbers is zero. Of them, at the most, how many may be greater than zero?**

A 0 **B** 1 **C** 10 **D** 19

Q16. **In a class of 100 students, 50 students passed in Mathematics and 70 passed in English, 5 students failed in both Mathematics and English. How many students passed in both the subjects?**

A 50 **B** 40 **C** 35 **D** 25

Q17. **Find the value of X if**

$$X = 2 + 2 - 2 \times 2 \div 2$$

A 0 **B** 1 **C** 2 **D** 4

Q18. **In a town of population 100,000, 20% have internet connection. And those who have internet connection, 15% use PTCL internet service. How many people have internet service other than PTCL?**

A 3,000 **B** 7,000 **C** 12,000 **D** 17,000

Q19. **A clock strikes once at 1 o'clock, twice at 2 o'clock, thrice at 3 o'clock and so on. How many times will it strike in 24 hours?**

A 78 **B** 136 **C** 156 **D** 196

Q20. **If 30% of all women are voters and 42% of the population are women, what percent of the population are women voters?**

A 17.4% **B** 25.20% **C** 12.60% **D** None of these

Q21. **Can you find the chosen number from this square using the clues below?**

1. The number is odd.
2. It is a multiple of three.
3. It is smaller than 7×4.
4. Its tens digit is even.
5. It is the greater of the two possibilities.

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

A 15 **B** 21 **C** 23 **D** 27

Q22. **A little monkey had 60 peaches. On the first day he decided to keep 3/4 of his peaches. He gave the rest away. Then he ate one. On the second day he decided to keep 7/11 of his peaches. He gave the rest away. Then he ate one. On the third day he decided to keep 5/9 of his peaches. He gave the rest away. Then he ate one. On the fourth day he decided to keep 2/7 of his peaches. He gave the rest away. Then he ate one. On the fifth day he decided to keep 2/3 of his peaches. He gave the rest away. Then he ate one. How many did he has left at the end?**

A 1 **B** 2 **C** 3 **D** 4

Q23. **My age this year is a multiple of 8. Next year it will be a multiple of 7. How old am I?**

A 32 **B** 36 **C** 48 **D** 54

Q24. **Anna put some 5 rupee coins on the table. One half of them were tails up. Anna turned over two of the coins, and then one third of them were tails up. How many coins did Anna put on the table?**

A 8 **B** 10 **C** 12 **D** 14

Read the text below and answer the following Questions 25 and 26.

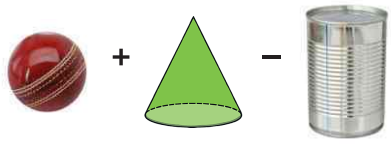
Andrew decorated 20 biscuits to take to a party. He lined them up and put icing on every second biscuit. Then he put a cherry on every third biscuit. Then he put a chocolate button on every fourth biscuit. So there was nothing on the first biscuit.

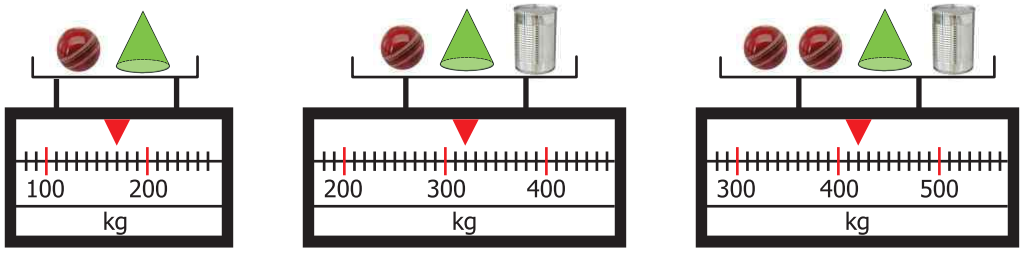
Q25. **How many biscuits had no decoration?**

A 5 **B** 6 **C** 7 **D** 8

Q26. **Which biscuit got all three decorations?**

A 8th **B** 9th **C** 11th **D** 12th

Q27. **What is the weight of**  **?**



A 150 kg **B** 20 kg **C** 50 kg **D** 10 kg

Q28. **Susan made a number pattern: 1, 5, 13, 29, ... She started the number pattern using the rule: multiply the previous number by 2 and then add 3 to the result to get the next number. What is the 8th number in her pattern?**

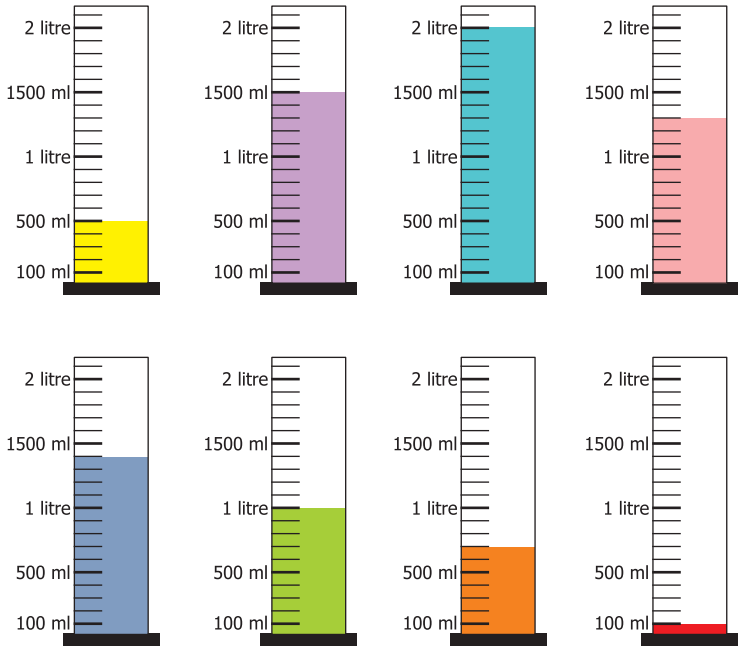
A 125 **B** 253 **C** 509 **D** 61

Q29. **A train can travel 50% faster than a car. Both start from point A at the same time and reach point B, 75 kms away from A, at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:**

A 100 kmph **B** 110 kmph **C** 120 kmph **D** 130 kmph

Q30. **A group of eight children in Class 6 were measuring water using measuring cylinders. They coloured the water to make reading the scales easier. They lined up the cylinders in two neat rows, each labelled with a child's name and the amount they had measured out.**

Then Harry opened the window and the wind blew most of the labels onto the floor! "Oh! Harry!" they all wailed. Can you relabel the cylinders for them?



Ahmed had measured out just a thousand millilitres and Belinda twice as much as Ahmed. Grace had measured out three-quarters of the amount that Belinda had done and Freddie had half the amount that Ahmed had measured out.

Which one is Freddie's cylinder?

A Cylinder with yellow coloured water

B Cylinder with green coloured water

C Cylinder with blue coloured water

D Cylinder with red coloured water

Blank Page

Blank Page

Blank Page

National Toppers ICATS Art Contest 2022

Student Name	Father Name	Grade	School
HUMNA NADIR	M. NADIR IKRAM	1	FOUNDATION PUBLIC SCHOOL
HAIDER ALI	ALI MUSHTAQ	2	ARMY PUBLIC SCHOOL & COLLEGE
MUHAMMAD YOUSAF	KAMRAN ASHRAF	3	KOHSAR CHILDREN'S ACADEMY
MUHAMMAD ZAID	M. SOHAIB NIZAMI	4	GENERATIONS SCHOOL
HANIA ABID	MRS. ASMA LATIF	5	FATIMA FERTILIZER SCHOOL
RUQAIYAH ALI ASGHER	ALI ASGHER KHAMBATWALA	5	MSB EDUCATIONAL INSTITUTE
RAMISHA ALI	ABID ALI MUGHAL	6	GOVT. QUEEN MARY GRADUATE COLLEGE
SYEDA FATIMA SURIYA	SYED TAHIR HUSSAIN	7	BEACONHOUSE SCHOOL SYSTEM
MANAL ARSHAD	MUHAMMAD ARSHAD	8	HABIB GIRLS SCHOOL
MARYAM SHAHID	SHAHID IQBAL	9	BAHRIA COLLEGE
AREEBA KHAN	DURAIZ KHAN	10	PRESENTATION CONVENT HIGH SCHOOL

Congratulations

National Toppers ICATS Creative Writing Contest 2022

Student Name	Father Name	Grade	School
HASSAN WASEEM	M. WASEEM	1	PAKISTAN INT'L PUBLIC SCHOOL
M. AFNAN SUFDER	SUFDER HUSSAIN	2	ARMY PUBLIC SCHOOL AND COLLEGE SYSTEM
FATIMA NOOR	BILAL YOUSAF	3	LAHORE GRAMMAR SCHOOL
M. ABDULLAH HASSAN	RIZWAN AHMAD	3	LAHORE GRAMMAR SCHOOL
SHANZAY ADNAN	ADNAN FAROOQ	3	ARMY PUBLIC SCHOOL
PRATIK PARKASH	PARKASH LAL	4	THE CITY SCHOOL
DANIYAL SHAHZAD	SHAHZAD ASLAM	5	LAHORE GRAMMAR SCHOOL
HASSAN ALI	IMRAN ALI SHAH	6	ARMY PUBLIC SCHOOL & COLLEGE
MAIDA SOHAIL	SOHAIL AKRAM	7	BEACONHOUSE SCHOOL SYSTEM
ATIYA ATIF	MUHAMMAD ATIF NAZAR	8	ROOTS IVY INTERNATIONAL SCHOOL
AYESHA HAFEEZ	CH. GHULAM HAFEEZ	8	ISLAMABAD COLLEGE OF ARTS & SCIENCES
PARTHAM KUMAR	DOULAT RAM	9	AGA KHAN HIGHER SECONDARY SCHOOL
AMNA HUSNAIN	SYED ALI ZAFAR	10	AES SCHOOL FOR GIRLS
RASIKH JAVED	M JAVED	10	BAHRIA FOUNDATION COLLEGE

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ICATS Mathematics Contest 2022
Grade 7-8

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled answer. (A) (B) (C) (D) Correct Filling Answer **"C"**

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1	B	11	C	21	D
2	D	12	D	22	A
3	B	13	A	23	C
4	A	14	B	24	C
5	C	15	D	25	C
6	C	16	D	26	D
7	C	17	C	27	B
8	C	18	D	28	C
9	D	19	C	29	C
10	C	20	C	30	A

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2023 QUESTION BOOKLET

GRADE 7 & 8
JUVENILES

Time Allowed: 90 Mins.
Maximum Marks: 90

ICATS MATHEMATICS CONTEST 2023

ICATS MATHEMATICS CONTEST 2023

JUVENILES (GRADE 7 & 8)

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TOTAL QUESTIONS : 30 MCQS

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Q1. **In which story the answer to the question is 0?**

A Maggie has a new video game called Sorcerer's Mission. Before she reached the final level, she collected 400 magic beans. During the final level, she earned 400 magic beans as a bonus! How many magic beans did Maggie end the game with?

B Maggie has a new video game called Sorcerer's Mission. Before she reached the final level, she collected 400 magic beans. During the final level, she bought a new robe for her character, which cost 400 beans. How many magic beans did Maggie end the game with?

C Both A & B

D None of these

Q2. **When Danish began his science experiment, he had 20 milliliters of an unknown solution. During the experiment, the change in the volume of the solution was -9 milliliters. What was the final volume of the solution?**

To solve the problem, Danish added 20 + (-9) and came up with an answer of -11 milliliters. Is Danish correct? Why or why not?

A Yes, Danish is correct.

B No. The answer should have been 11 milliliters, not -11 milliliters, because the volume should not be negative.

C No. Danish should have subtracted 20 - (-9) because the volume decreased.

D None of these.

Q3. **Jamshaid plans to serve cheese and crackers as an appetizer at his next dinner party. He buys 0.8 pounds of cheddar cheese. If the cheese costs $5.35 per pound, how much does he spend?**

A $3.28 **B** $4.28 **C** $4.82 **D** $5.35

Q4. **In which story could you use the quotient 450 ÷ 22 to answer the question?**

A The surface of Mercury can get as hot as 450°C. If the highest surface temperature on Mercury is about 22 times that on Mars, about how hot can Mars get?

B The surface of Mercury can get as hot as 450°C. If the highest surface temperature on Venus is about 22 degrees greater than on Mercury, about how hot can Venus get?

C Both A & B

D None of these

Q5. **In a class test containing 15 questions, 4 marks are given for every correct answer and (-2) marks are given for every incorrect answer.**

(i) Fatima attempts all questions but only 9 of her answers are correct. What is her total score?

(ii) One of her friends gets only 5 answers correct. What will be her score?

A (i) 23, (ii) 10 **B** (i) 24, (ii) 10 **C** (i) 24, (ii) 0 **D** (i) 26, (ii) 0

Q6. **When the value of Coral Island Bookstore stock fell 5 points, the change was represented online as -5 points.**

The next day, the change in value of the stock was represented as 6 points. Which of these describes the change in the stock's value?

A It fell 6 points.

B It neither rose nor fell

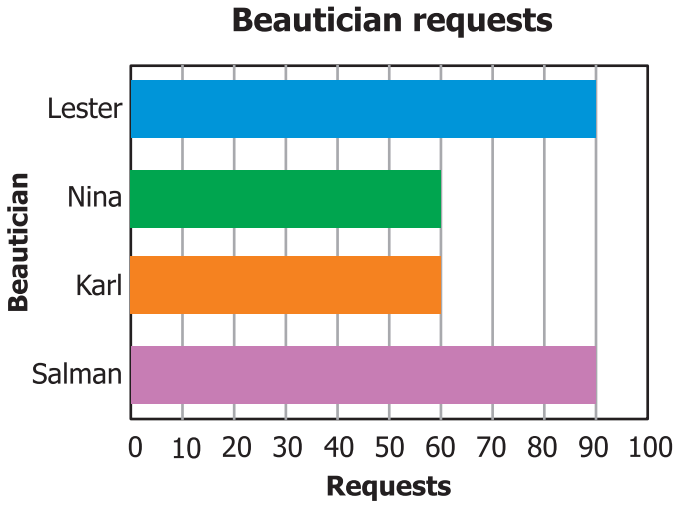
C It rose 6 points

D None of these

Q7. **John has just moved to a new town and wants to share plates of baked goods with his neighbors. He has 10 cookies and 15 brownies to share, and wants to split them equally among the plates with no food left over. What is the greatest number of plates he can make to share?**

A 2 plates **B** 3 plates **C** 4 plates **D** 5 plates

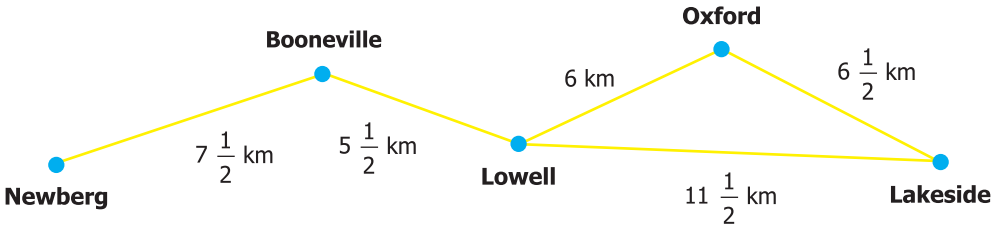
Q8. **A beauty salon in Princeton has four beauticians and keep track of how often clients request each one specifically.**



What fraction of requests were for Salman?

A 3/10 **B** 8/10 **C** 9/10 **D** 10/9

Q9. **Using the paths shown below, how long is the shortest route from Booneville to Lakeside?**



A 16 km **B** 17 km **C** 18 km **D** 19 km

Q10. **Your mother said you to buy $\frac{2}{5}$ of a kilogram of oysters, $\frac{2}{5}$ of a kilogram of crab meat, and $\frac{3}{5}$ of a kilogram of mussels. How much would it cost as per following price list?**

shrimp	**$2/kg**
mussels	**$4/kg**
lobster meat	**$5/kg**
crab meat	**$4/kg**
oysters	**$3/kg**

A $4.8 **B** $5 **C** $5.2 **D** $5.4

Q11. **Aslam is extremely exhausted after playing a one-day cricket match. He wants to go home by taking the shortest route. There are two roads that lead to his home shown as below:**

Road A: 14,082 yards
Road B: 8 miles

Which road will Aslam take?

A Road A **B** Road B **C** Both are equal **D** Information is incomplete

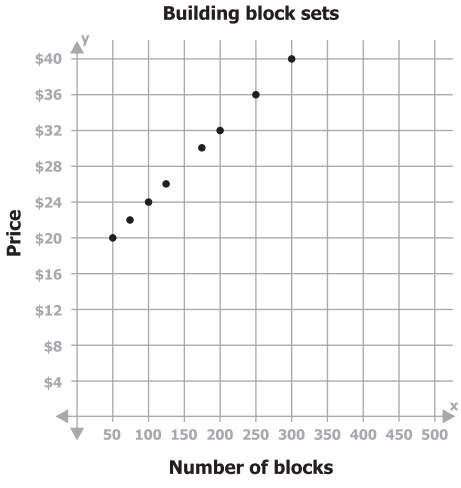
Q12. **The attendance at three concerts was 876, 647 and 856. Which expression shows how to estimate the total attendance at the concerts?**

A 800 + 600 + 800
B 900 + 700 + 900
C 900 + 600 + 900
D 1,000 + 700 + 900

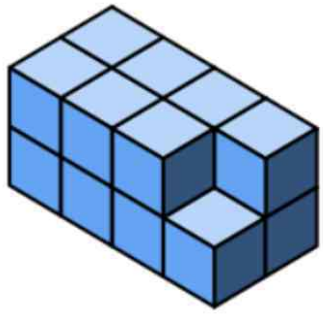
Q13. **"My Little Builders" building blocks come in sets of different sizes. This scatter plot shows the number of blocks in some sets and how much each set costs.**

Which of the following is a reasonable estimate for the price of a 150-block set?

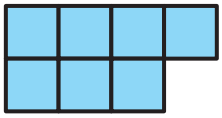
A $8
B $20
C $28
D $70



Q14. **If you look at this object from the top, what will you see?**



A



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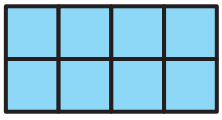


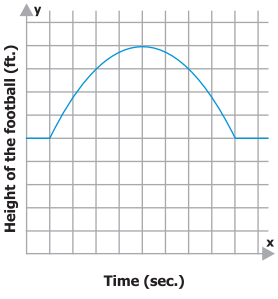
C Both A & B

D None of these

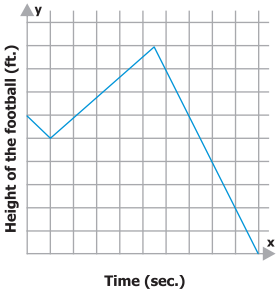
Q15. **Fatima is teaching her little sister, Musfirah, how to catch a football. Fatima holds the football in her hand and throws it high and long in the air. Musfirah has to run back several steps, but she catches it successfully and holds on to it.**

Which graph could show the height of the football over time?

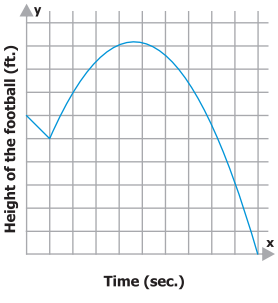
A



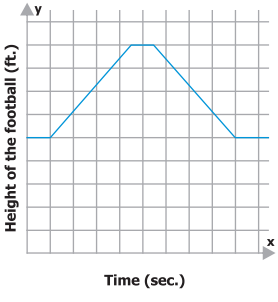
C



B

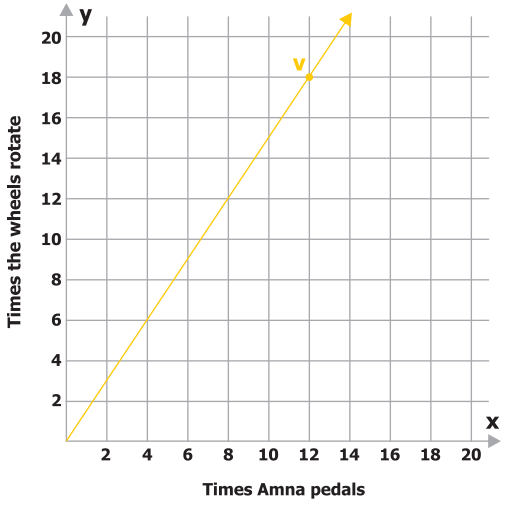


D



Q16. **Amna has outgrown the bike she rode when she was small. So, for her twelfth birthday, her parents surprise her with a five-speed Blaze Rider 2000! Amna has never had a bike with multiple speeds before, and she is eager to learn how it works. She starts by testing the middle speed.**

The graph shows the proportional relationship between the number of times Amna pedals and the number of times the wheels rotate.



What does the point V represent?

A The wheels rotate 18 times when she pedals 12 times.

B The wheels rotate 12 times when she pedals 18 times.

C Both A & B

D None of these

Q17. **The price of a toy increased from Rs. 4 to Rs. 7. What is the percent of change in the price?**

A 75% decrease

B 75% increase

C 3% increase

D 3% decrease

Q18. **At soccer practice, Hassan warms up by kicking balls at the goal. Yesterday, Hassan made 24 goals in 3 minutes. Today, he only spent 2 minutes kicking balls at the goal.**

If Hassan made goals at the same rate, how many goals did he make today?

A 16 goals **B** 18 goals **C** 20 goals **D** 22 goals

Q19. **You want to buy a desk chair which has a sale price of $36, keeping in view the following discount coupon, what was the original price?**

A $40 **B** $45 **C** $50 **D** $60

Q20. **A restaurant critic reviewed restaurants in Oxford and Fairview. In Oxford, the critic gave 33 positive reviews and 18 negative reviews. In Fairview, 11 of the reviews were positive and 5 were negative. In which city did the restaurant critic give a lower ratio of negative reviews to positive reviews?**

A The critic gave a lower ratio in Oxford.
B The critic gave a lower ratio in Fairview.
C Neither. The critic gave the same ratio in both cities.
D None of these.

Q21. **Maryam and two friends are at a movie theater. They have $52.00 and spend $34.50 of it on movie tickets. They also buy 3 drinks that each cost the same amount. After buying the movie tickets and drinks, they have $4.00 remaining. How much did each drink cost?**

A $2.50 **B** $3.83 **C** $4.00 **D** $4.50

Q22. **Find the value of A in the following:**

$$\begin{array}{r} 1\,A \\ \times\, A \\ \hline A\,9 \\ \hline \end{array}$$

A 1 **B** 2 **C** 3 **D** 4

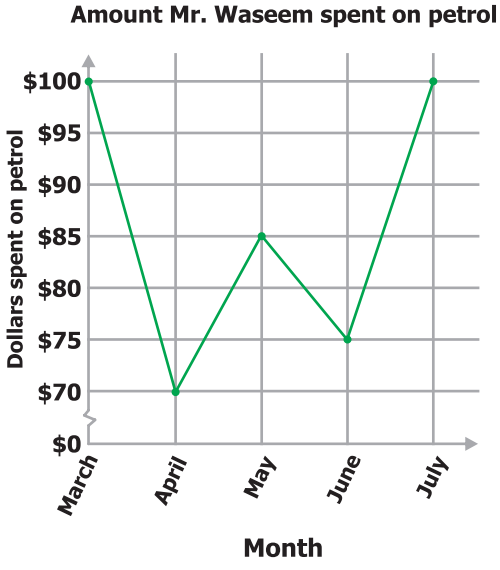
Q23. **A store manager collects information about the number of people who visit his store each week. The information, collected over a 3-week period, is listed below:**

- **The number of people that visited the store in week 1 was 3,200.**
- **The number of people that visited the store in week 2 was 10% more than week 1.**
- **The number of people that visited the store in week 3 was 15% more than week 2.**

How many people visited the store in week 3?

A 3,520 **B** 3,680 **C** 4,000 **D** 4,048

Q24. **Mr. Waseem recorded the amount he spent on petrol each month to see if it would be cheaper to take the train to work instead of car.**



According to the graph, when was the rate of change greater?

A Between April and May
B Between June and July
C Between May and June
D None of these

Q25. **Ayesha owns a dog grooming business. The prices for two services are listed below.**

- **$31.50 for a dog wash**
- **$17.00 for a nail trim**

A customer receives an 18% discount when paying for both a dog wash and a nail trim. What is the total price the customer will pay for a dog wash and a nail trim with the discount?

A $18.00
B $39.77
C $42.83
D $48.50

Q26. **Write an algebraic expression for:**

77 more than the product of 2 and u.

A 2u - 77 **B** 77 + 2u **C** 2u = 77 **D** 77 more than 2u

Q27. **The members of sewing circle are making blankets to give to shelters. This week, they made 18 twin-size blankets and 38 queen-size blankets, using a total of 414 meters of fabric. Last week, the members completed 18 twin-size blankets and 20 queen-size blankets, which required 252 total meters of fabric. How much fabric is used for the different sizes of blankets?**

A twin-size blanket uses _____ meters of fabric and a queen-size one uses_____ meters.

A 3 meters, 7 meters
B 3 meters, 8 meters
C 4 meters, 8 meters
D 4 meters, 9 meters

Q28. **A scuba diver dives 24 feet below the water's surface. The diver then rises 10 feet, stops and then dives downward another 18 feet. How far, in feet, does the diver need to rise upward to reach the water's surface?**

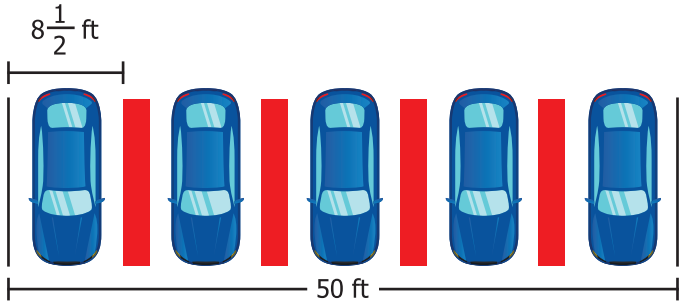
A 10 feet **B** 18 feet **C** 24 feet **D** 32 feet

Q29. **Which one of the following is not a graphical means of showing data?**

A Pictograms **B** Texts **C** Bar Charts **D** Graphs

Q30. **The design of an office parking lot is shown below. The distance between each parking space is filled with a red block.**

DIAGRAM OF PARKING LOT



What is the width of a red block between each parking space in the parking lot?

A $\frac{17}{20}$ foot

B $1\frac{1}{2}$ feet

C $1\frac{7}{8}$ feet

D $1\frac{7}{10}$ feet

National Toppers ICATS Art Contest 2023

Student Name	Father Name	Grade	School
ZOHA SUALEH	MIR M. SHAH SUALEH	1	FUTURE WORLD SCHOOL
SHAZIL ASAF	ASAF JAVED	1	ARMY PUBLIC SCHOOL & COLLEGE FOR BOYS
MUHAMMAD WALEE KHAN	FAHEEM ASHRAF	2	NUST CREATIVE LEARNING SCHOOL & COLLEGE
RAYYAN IRFAN	DR. MUHAMMAD YOUSAF	3	DHA JUNIOR SCHOOL
ANABIYA	HUSSAIN ABID	3	APS&C PMA
MAHNOOR	GHULAM MUSTAFA	4	AES SCHOOL FOR GIRLS
MEERAB KHAN	ADNAN ASIF KHAN	5	LAHORE GRAMMAR SCHOOL (JUNIOR SECTION)
MAHEEN MUNIR	MUNIR KHAN	6	FAUJI FOUNDATION SCHOOL
TALHA ALI KHAN	SADAQAT ALI	7	JOINT STAFF PUBLIC SCHOOL & COLLEGE
AREESHA MOBEEN	MOBEEN TAHIR	8	LAHORE GRAMMAR SCHOOL
ASMA NAEEM	NAEEM AMIN	9	ALLAMA IQBAL PUBLIC GIRLS HIGH SCHOOL
SUMERA KHAN	IMRAN KHAN	10	AES SCHOOL FOR GIRLS

Congratulations

National Toppers ICATS Creative Writing Contest 2023

Student Name	Father Name	Grade	School
FAARIS ALI QURESHI	DANYAL QURESHI	1	LAHORE GRAMMAR SCHOOL
KHADIJA AHSAN	AHSAN MAJEED	2	LAHORE GRAMMAR SCHOOL
ZAYYAN MUSTAFA	QAMAR MUSTAFA	3	ARMY PUBLIC SCHOOL (BOYS & GIRLS)
SIBTAIN ALI KHAN	FAWAD ALI PATHAN	4	PAK-TURK MAARIF INTERNATIONAL SCHOOLS & COLLEGES
SAARIM THARANI	IMRAN NOORALI THARANI	5	AGA KHAN SCHOOL GARDEN
M. AHMED JADOON		6	THE CITY SCHOOL (RAVI CAMPUS)
ARISHA MAZHAR	MAZHAR ALI	7	KOHSAR CHILDREN'S ACADEMY
VERDAH SAHAR USMAN	USMAN TARIQ SHEIKH	7	LAHORE GRAMMAR SCHOOL
SALEHA SHAHID	SHAHID WAHEED	8	THE CITY SCHOOL (PESHAWAR CAMPUS)
HALEEMA USMAN	USMAN AHMED	8	TNS BEACONHOUSE
UMAIMA AIMEN	MUBASHIR MUSTAFA	9	RANGERS PUBLIC SCHOOL
RANIA ZAKIA MALIK	TAHIR NAEEM MALIK	10	ISLAMABAD COLLEGE OF ARTS AND SCIENCES

Congratulations

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Answer Sheet

INSTRUCTIONS

- This is a generic answer sheet to be used by participants of all grades. Students of Grade 1-2 will fill in circles of first 20 questions, Grade 3-4 will fill in circles of 25 questions and Grade 5-10 will fill in circles of 30 questions.
- Please recheck your Name, Father Name, Grade and School written below, the same would appear at your certificate. Make all corrections on the Attendance Sheet only.
- Use of lead pencil is not allowed. Use only Black / Blue ink to fill in the circles.

ICATS Mathematics Contest 2023
Grade 7-8

Choose only ONE of the FOUR proposed answers (A, B, C or D) and fill in the circle with your answer.

Example of correctly filled answer. (A) (B) (C) (D) Correct Filling Answer **"C"**

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1	B	11	C	21	D
2	B	12	C	22	C
3	B	13	C	23	D
4	A	14	B	24	B
5	C	15	A	25	B
6	C	16	A	26	B
7	D	17	B	27	D
8	A	18	A	28	D
9	B	19	A	29	B
10	C	20	B	30	C