CREST Mathematics Olympiad (CMO)

Previous Year Paper (2021-22)

Class 6

Time Allowed: 1-hour **Maximum Marks: 60**

- Additional **10 minutes** will be allotted to fill up information on the OMR Sheet, before the start of the exam.
- Fill in all the mandatory fields clearly on the OMR Sheet.
- There are **2 sections** in the question paper namely the **Practical Mathematics& Achievers' Section** consisting of **40 questions (1 mark each) & 10 questions (2 marks each),** respectively.
- There is no negative marking. The use of a calculator is not permitted.
- There is **only ONE correct option** to a given question.
- Use **HB Pencil or Blue / Black ball point pen only** for marking the correct choice of answers on the OMR Sheet.
- Rough work is to be done in the space provided in the test booklet. Extra plain sheet may be provided by the school for the rough work.
- The OMR Sheet is to be handed over to the invigilator at the end of the exam.
- No candidate is allowed to carry any textual material, printed or written, bits of paper, any electronic device, etc. inside the examination hall.
- The use of unfair means may result in the cancellation of the exam. Any such instances may be reported at **+91-98182-94134** or **info@crestolympiads.com**

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

FILL IN THE DETAILS

Student Name: _____

Class: _____Section: _____

Enrollment No:_____

Practical Mathematics (Each Question is 1 Mark)

1. Fill in the blank:
45 + 34 - 12 × 7 + 19 = ____

a. 14
b. 17
c. 24
d. 27

2. Sam has a box of candies which is 3/7 full whereas Sia has a box of candies which is 4/9 full. Who has more candies and by how much?

a. Sam, $\frac{1}{63}$
b. Sia, $\frac{1}{63}$
c. Sam, $\frac{1}{7}$
d. Sia, $\frac{1}{7}$

3. Which of the following numbers is completely divisible by 6?

a. 2236
b. 2520
c. 2678
d. 2348

4. Rosy covers a distance of 12 km by car and 28 km by bus to reach his destination. What fraction of her journey was covered by car?

a. $\frac{3}{10}$
b. $\frac{7}{10}$
c. $\frac{2}{5}$
d. $\frac{9}{10}$

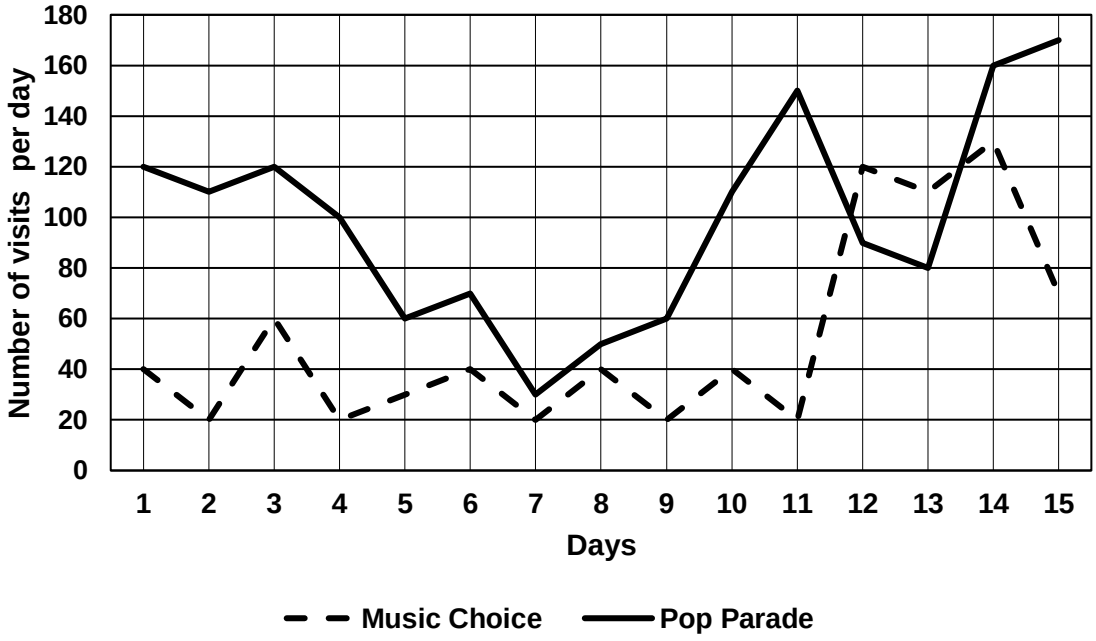
5. Simplify:
6.025 - (-0.125) + (-1.125) + 4.25 - (-1.25)

a. 11.250
b. 8.525
c. 10.525
d. 9.250

6. Tissa went for shopping and bought 12 shirts, 15 jackets and 20 packets of biscuits. If cost of a shirt, a jacket and a packet of biscuit is $23.50, $79, and $20, respectively, then find the total amount of money spent by her on shopping.

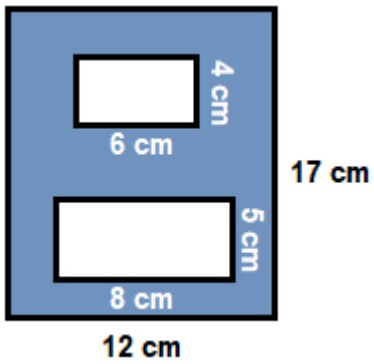
a. $1,867
b.$1,687
c. $1,097
d. $1,217

7. The given graph shows visits to two music sites on web.
What is the difference in the number of visits on Music Choice and Pop Parade on the first day?



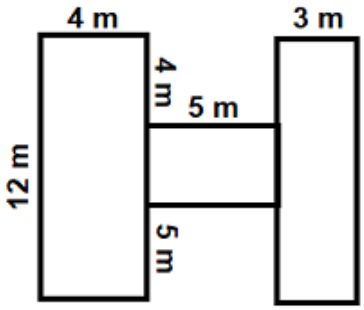
a. 80
b. 100
c. 120
d. 140

8. Find the area of the shaded portion.



a. 204 cm^2
b. 140 cm^2
c. 104 cm^2
d. 96 cm^2

9. Find the perimeter of the given figure.

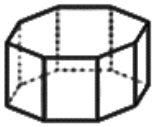
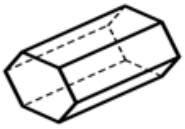
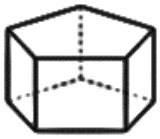


a. 42 m
b. 46 m
c. 52 m
d. 56 m

10. What should be the area of a rectangular park of length 14 m and perimeter 40 m?

a. 560 m^2
b. 280 m^2
c. 108 m^2
d. 84 m^2

11. Which of the following represents octagonal prism?

a. 
b. 
c. 
d. 

12. Fill in the blanks:
_____ ÷ _____ + 23 = 95

a. 1259, 17
b. 1178, 23
c. 1152, 16
d. 1784, 19

13. Fill in the blank:
Robertson scored 17 marks more than Pearlie in a test. If Robertson's score is represented by x, then Pearlie's score will be _____.

a. $x + 17$
b. $x - 17$
c. $17\ x$
d. $\frac{17}{x}$

14. Fill in the blanks:
A hexagonal pyramid has _____ faces, _____ edges and _____ vertices.

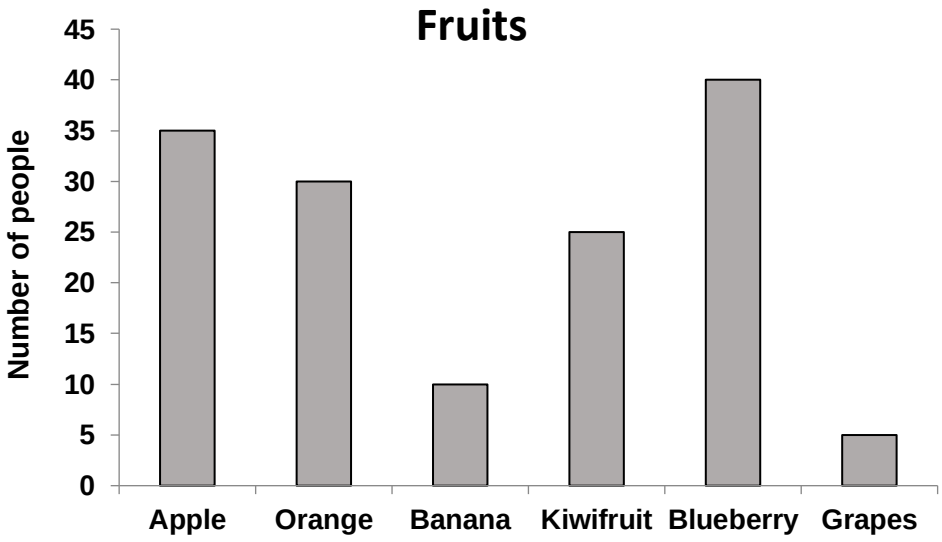
a. 6, 12, 6
b.7, 14, 7
c. 6, 14, 6
d. 7, 12, 7

15. Out of 25 birds on a tree, 5 flew away. What fraction of birds are still on the tree?

a. $\frac{4}{5}$ b. $\frac{3}{5}$

c. $\frac{2}{5}$ d. $\frac{1}{5}$

16. The given graph shows the fruit preferences of people. What is the ratio of preference of banana to kiwifruit among people?



a. 2: 5 b. 3: 5

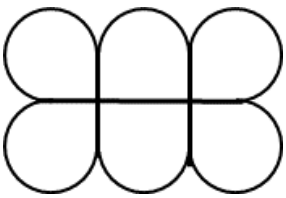
c. 2: 3 d. 4: 5

17. A point A on the mountain is 6.35 m above sea level and another point B is 8.25 m below sea level. What is the distance between the two points?

a. 1.90 m b. 1.96 m

c. 14.6 m d. 16.6 m

18. How many lines of symmetry does the given figure have?



a. 0 b. 1

c. 2 d. 3

19. Choose the correct option:
88% of 370 + 24% of 210 -? = 118

a. 256
b. 258
c. 268
d. 358

20. The simple interest on a sum of money is $\frac{4}{9}$ of the principal and the number of years is equal to the rate percent per annum. The rate percent is:

a. $6\frac{2}{3}\%$
b. $5\frac{3}{5}\%$
c. $7\frac{2}{3}\%$
d. $6\frac{1}{3}\%$

21. A rectangular piece of land measures 0.7 km by 0.5 km. Each side is to be fenced with 4 rows of wires. What is the length of the wire needed?

a. 7.8 km
b. 8 km
c. 8.9 km
d. 9.6 km

22. If m is a positive integer, which of the following is not equal to $(2^4)^m$?

a. 2^{4m}
b. 4^{2m}
c. $2^m(2^{3m})$
d. $4^m(2^m)$

23. How many degrees are there in an angle which equals one-fifth of its supplement?

a. 15°
b. 30°
c. 75°
d. 150°

24. The sum of the interior angles of a 12-sided regular polygon is equal to _____.

a. 180°
b. 360°
c. 1800°
d. 2160°

25. 587,315 is written as 590,000 after it has been rounded off to:

a. The nearest ten
b. The nearest hundred
c. The nearest thousand
d. The nearest ten thousand

26. In an examination, Kate's score was 92. Amy obtained 15 marks less than Kate. Robert scored 4 marks more than Amy. What is the difference between Kate and Robert's score?

a. 11
b. 19
c. 73
d. 77

27. Ela scored 72 out of 100 in French, 96 out of 100 in Maths and 75 out of 100 in German. Find out her overall percentage of marks.

a. 80
b. 81
c. 85
d. 79

28. If today is Sunday, what will be the day on the 50th day from today?

a. Sunday
b. Monday
c. Tuesday
d. Wednesday

29. How many bricks whose length and breadth are 12 cm and 6 cm, respectively, will be needed to fit in a rectangular region that measures 90 cm × 120 cm?

a. 200
b. 150
c. 250
d. 100

30. If 40:x::60: 45, then value of x is _____.

a. 10
b. 20
c. 30
d. 90

31. If two-line segments cut each other at right angles, they are _____.

a. parallel
b. perpendicular
c. Equal
d. Both parallel and perpendicular

32. 31 out of 50 pupils in a school wear watches. What percentage of the pupils do not wear watches?

a. 19%
b. 31%
c. 38%
d. 62%

33. The H.C.F. of three numbers is 24. If they are in the ratio 35: 55: 77, then the numbers are:

a. 280, 440, 615
b. 105, 175, 231
c. 840, 1320, 1848
d. 900, 1400, 1900

34. The simplified value of (10.24 ÷ 1.6) / (20 - 19.8) is:

a. 1.6
b. 3.2
c. 16
d. 32

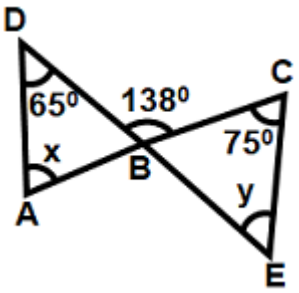
35. A father is twice as old as his son. 20 years back, he was twelve times as old as his son. What are their present ages?

a. 24 years, 12 years
b. 44 years, 22 years
c. 48 years, 44 years
d. None of these

36. A student scores 55% marks in 8 papers of 100 marks each. He scores 15% of the total marks in German. How much does he score in German?

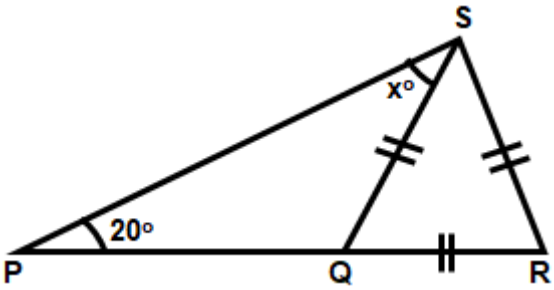
a. 55
b. 66
c. 77
d. 44

37. Look at the diagram given below. ABC and DBE are straight lines. Calculate the value of x + y:



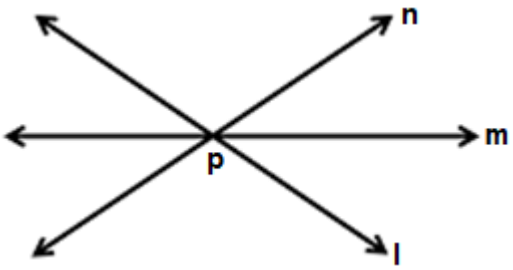
a. 132°
b. 124°
c. 136°
d. 126°

38. In the diagram, PQR is a straight line. Find the value of x.



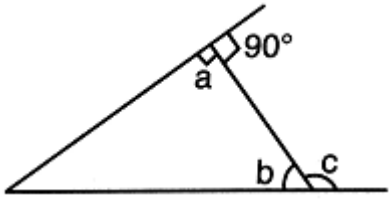
a. 20°
b. 40°
c. 60°
d. 100°

39. In the given figure, lines l, m and n have been drawn passing through P. How many more lines can we draw through P?



a. None
b. One
c. Five
d. Infinite

40. In the given figure, what is the value of a + b + c?



a. 180°
b. 240°
c. 270°
d. 360°

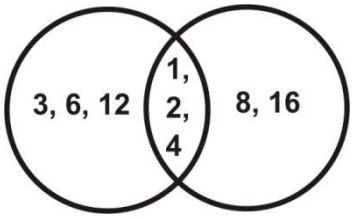
Achiever's Section (Each Question is 2 Marks)

41. Albert had a certain amount of money with him. He gave 1/5 of it to his brother, 2/7 to his friend and 1/10 to his father. If he is left with $290, what was the amount he had in the beginning?

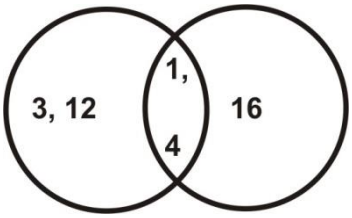
a. $570
b. $610
c. $670
d. $700

42. Which of the following figures correctly represents factors of 12 and 16?

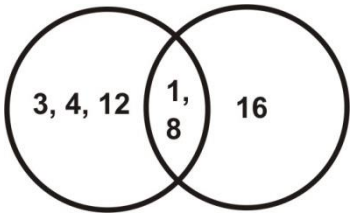
a.



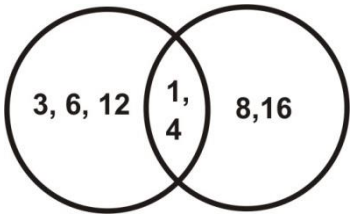
b.



c.



d.



43. Which table of values is correct for the given algebraic equation?
a = (b x 9 + 6) ÷ 2

a.

a	b
5	1
10	2
15	3

b.

a	b
9	2
18	4
27	6

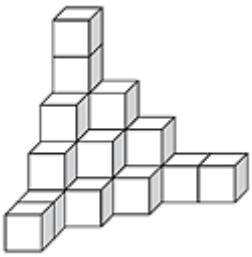
c.

a	b
0	3
1	15
4	30

d.

a	b
3	0
12	2
21	4

44. Find the total number of cubes in the stack.



a. 13
b. 20
c. 23
d. 25

45. Given that c > 0. Which of the following is equal to a: b?

a. (a + c): (b + c)
b. (a - c): (b - c)
c. $\frac{a}{c} : \frac{b}{c}$
d. All the these

46. There are six poles on the side of a 1 km 200 m long straight road such that there is a pole at the starting and endpoint of the road. If the poles are equally spaced, then what is the distance between each consecutive pole?

a. 200 m
b. 210 m
c. 230 m
d. 240 m

47. If we divide the sum of three numbers a, b, and c by 8, we get 4. We can represent this statement algebraically as _____.

a. $\frac{(a+b+c)}{8}$
b. $(a+b+c)\times 8=4$
c. $\frac{(a+b+c)}{8}=4$
d. $\frac{(a+b+c)}{4}=8$

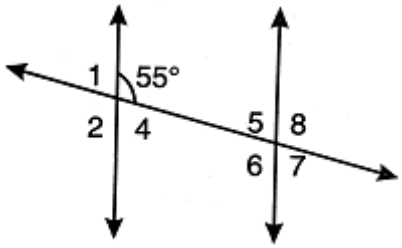
48. A mother is three times as old as her son. After 15 years, she will be twice as old as her son.
What is the present age of mother?

a. 30 years
b. 45 years
c. 50 years
d. 60 years

49. An amount of money is to be distributed among A, B and C in the ratio 3: 1: 5. The difference between B's share and C's share $3600. What is the total of A's share and B's share?

a. $5,400
b. $3,600
c. $2,700
d. $1,800

50. Based on the given figure, which of the following statement is true?



a. ∠5 and ∠7 are supplementary angles
b. ∠7 = 55°
c. ∠8 and ∠1 are corresponding angles
d. ∠4 and ∠5 alternate angles

Answer Key

1. a	2. b	3. b	4. a	5. c	6. a	7. a	8. b	9. d	10. d
11. a	12. c	13. b	14. d	15. a	16. a	17. c	18. c	19. b	20. a
21. d	22. d	23. b	24. c	25. d	26. a	27. b	28. b	29. b	30. c
31. b	32. c	33. c	34. d	35. b	36. b	37. c	38. b	39. d	40. c
41. d	42. a	43. d	44. c	45. c	46. d	47. c	48. b	49. b	50. d