Grade 4

## CREST Mathematics Olympiad (CMO)

# Sample Paper

| Pattern and Marking Scheme | | | | |
|---|---|---|---|---|
| **Grade** | **Topic/Section** | **No. of Questions** | **Marks per Question** | **Total Marks** |
| **Grade 4** | Practical Mathematics | 25 | 1 | 25 |
| | Achiever's Section | 10 | 2 | 20 |
| **Grand Total** | | **35** | | **45** |

The total duration of the exam is 60 minutes.

## Syllabus

**Section 1:** Numerals and Number Names, Number Sense (5-digit numbers), Computation Operations, Fractions, Length, Weight, Capacity, Time, Money, Geometry, Perimeter of Various Shapes, Symmetry, Conversions, Data Handling.

**Achievers Section:** Higher Order Thinking Questions - Syllabus as per Section 1

For more details, visit https://www.crestolympiads.com/maths-olympiad-cmo

# Practical Mathematics (Each Question is 1 Mark)

**1.** What is the difference between the place values of 7 in the number 78,746?

a. 6,300
b. 69,300
c. 9,900
d. 69,100

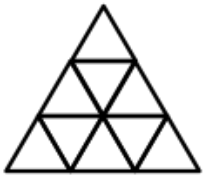
**2.** Which of the following cannot be qualified as a valid Roman numeral?

a. CDXXXX
b. CDXIV
c. CDXXV
d. CDV

**3.** Fill in the blank:
The correct expanded form of forty-five thousand four hundred and fifty-nine will be _____.

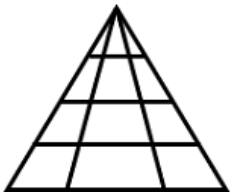
a. 40,000 + 5,000 + 40 + 59
b. 45,000 + 400 + 50 + 9
c. 45,000 + 5,000 + 400 + 50 + 9
d. 40,000 + 5,000 + 400 + 50 + 9

**4.** How many triangles are there in the picture?



a. 9
b. 11
c. 13
d. 15

**5.** How many triangles are there in the picture?



a. 16
b. 18
c. 21
d. 24

**6.** Amy's monthly income is 36,000 cents. Two-thirds of it is used for paying house rent and one-fourth is used for household expenditure. How much money is left with him?

a. 3,000 cents
b. 3,500 cents
c. 4,000 cents
d. 5,000 cents

**7.** If the perimeter of a rectangular field is 56 cm and its breadth is 8 cm, find its length:

a. 64 cm
b. 48 cm
c. 28 cm
d. 20 cm

**8.** Fill in the blank:
The sum of CCCXLVII and CLXVIII is _____

a. DXV
b. DXVI
c. DXVII
d. DXVIII

**9.** Which of the following correctly represents all the factors of 64?

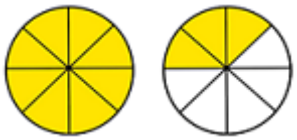
a. 1, 2, 3, 4, 8, 16, 64
b. 1, 2, 4, 8, 16, 64
c. 1, 2, 4, 8, 16, 32, 64
d. 1, 2, 3, 4, 16, 32, 64

**10.** Find P - Q if:

$$\begin{array}{r} 1\,P\,5\,7 \\ \times Q\,2 \\ \hline 3\,9\,1\,4 \\ 5\,8\,7\,1\,X \\ \hline 6\,2\,6\,2\,4 \\ \hline \end{array}$$

a. 4
b. 6
c. 7
d. 9

**11.** Express the following picture as a mixed fraction:



a. $1\frac{1}{4}$
b. $1\frac{3}{4}$
c. $1\frac{3}{8}$
d. $1\frac{5}{8}$

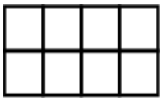
**12.** Seren bought 5 kg of fruit. His neighbour borrowed three-fifths of the fruits from him. What amount of fruit was borrowed?

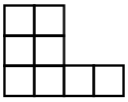
a. 2 kg 500 g
b. 3 kg
c. 3 kg 250 g
d. 3 kg 500 g

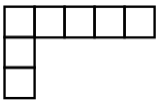
**13.** Sam's mother gave her 100 cents for the school canteen. She spent one-fifth of the amount in buying a burger and one-fourth of the amount in buying a Coke can. How much money is left with her?

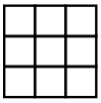
a. 35 cents
b. 45 cents
c. 55 cents
d. 65 cents

**14.** Which of the following has the maximum perimeter if the length of the side of each square is 1 unit?

a. 

b. 

c. 

d. 

**15.** Fill in the blank:
The difference of CCCXLVII and CLXVIII is _____

a. CLXXIX
b. CLXIX
c. CLX
d. CLIX

**16.** The temperature in city A is two-thirds of the temperature in city B. If the temperature of city A is 18°C, find the temperature in city B.

a. 12°C
b. 27°C
c. 36°C
d. 45°C

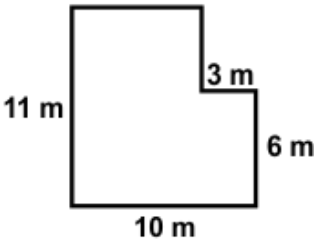
**17.** A shopkeeper opens his shop at 11:20 a.m. and closes it at 9:30 p.m. every day. For how many hours does his shop open in a week if he keeps the shop closed on Tuesdays?

a. 71 hours 20 minutes
b. 68 hours 40 minutes
c. 63 hours
d. 61 hours

**18.** Neil misses the usual 7:00 a.m. bus that she boards every day to reach the office at 8:00 a.m. She boards the next bus which arrives 15 minutes later but the bus gets stuck in a traffic jam and it takes her 25 minutes of extra time to travel in the bus. At what time will she reach today?

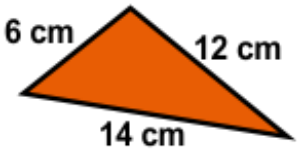
a. 8:15 a.m.
b. 8:30 a.m.
c. 8:40 a.m.
d. 8:45 a.m.

**19.** Find the perimeter of the given figure:




a. 33 m
b. 37 m
c. 40 m
d. 42 m

**20.** What is the perimeter of the given figure?




a. 18 cm
b. 20 cm
c. 28 cm
d. 32 cm

**21.** Fill in the blank:
207, 184, 161, ____, 115

a. 124
b. 138
c. 146
d. 154

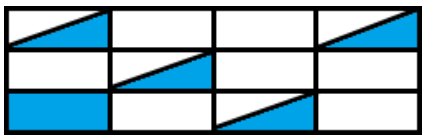
**22.** A jug can hold five times the quantity of water that a glass can hold. If the jug holds 3 L of water, what is the capacity of the glass?

a. 15 L
b. 500 mL
c. 550 mL
d. 600 mL

**23.** Fill in the blank:
345 × 42 _____ 281 × 45

a. >
b. <
c. is equal to
d. Can not be determined

**24.** What fraction of the figure is shaded?



a. 1/12
b. 1/6
c. 1/4
d. 1/3

**25.** Which of the following numbers has 3 in the thousand place?

a. 2245
b. 3387
c. 2341
d. 2432

## Achiever's Section (Each Question is 2 Marks)

**26.** Which of the following is the least in value?

a. 54 thousands 22 hundreds 12 tens and 2 ones - 22 thousands 17 hundreds 14 tens and 3 ones
b. 53 thousands 18 hundreds 17 tens and 4 ones - 21 thousands 19 hundreds 17 tens and 7 ones
c. 48 thousands 22 hundreds 19 tens and 5 ones - 16 thousands 15 hundreds 12 tens and 8 ones

d. 44 thousands 35 hundreds 14 tens and 8 ones - 21 thousands 18 hundreds 15 tens and 4 ones

**27.** Which of these computations would solve the following problem?
126 candies were shared equally among 6 children.

a. 126 × 6
b. 126 ÷ 6
c. 126 + 6
d. 126 - 6

**28.** Siel reaches home from her school at 3:15 p.m. After spending 20 minutes finishing her food, she travels for 15 minutes to attend her piano class which lasts for 1 hour and 15 minutes. She then travels for 10 minutes to reach her dance class. After spending 45 minutes in the dance class, she reached home in 15 minutes. When does her dance class end?

a. 6:00 a.m.
b. 6:00 p.m.
c. 6:05 p.m.
d. 5:55 p.m.

**29.** Match the following:

| **Column I** | | **Column II** | |
|---|---|---|---|
| A. | Factor of 26 | 1. | 121 |
| B. | Multiple of 11 | 2. | 13 |
| C. | Highest single-digit prime number | 3. | 97 |
| D. | Highest 2-digit prime number | 4. | 7 |

a. A-2, B-1, C-4, D-3
b. A-1, B-2, C-4, D-3
c. A-2, B-1, C-3, D-4
d. A-2, B-4, C-1, D-3

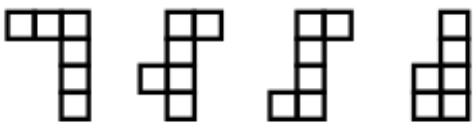
**30.** Express the following picture as a mixed fraction and find their sum:

a. $1\frac{3}{4}$
b. $2\frac{3}{4}$
c. $2\frac{3}{4}$
d. $3\frac{3}{4}$

**31.** Mrs. Edwards bought a large pizza. A large pizza has 12 slices. If her daughter, Andrea, ate two slices, what fraction of the pizza was left?

a. 1/6
b. 2/6
c. 5/6
d. 1/3

**32.** Which of the following has a perimeter equal to 14 cm if length of the side of each square is 1 cm?




a. (i) only
b. (i) and (ii) only
c. (i), (ii) and (iii) only
d. (i), (ii), (iii) and (iv)

**33.** What number will come at the hundred's place if Ria takes the product of 1235 and 23?

a. 400
b. 40
c. 4
d. 0

**34.** Mitti bought 5 stick ice-creams, 4 cone ice-creams, and 6 cup ice-creams. The cost of a stick ice-cream, a cone ice-cream, and a cup ice-cream is 35 cents, 45 cents and 30 cents, respectively. Find the total amount of money paid by her:

a. 535 cents
b. 565 cents
c. 595 cents
d. 615 cents

**35.** Albert gave $5,427.75 to his wife and $2,364.87 to his son from his salary. After giving them this amount, he was left with $4,218.53. What was his salary?

a. $11012.45
b. $14576.75
c. $12011.15
d. $12487.53

# Answer Key

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