## SAMPLE PAPER

## CREST Mathematics Olympiad (CMO)

## 7

Syllabus for CMO is available at https://www.crestolympiads.com/cmo-syllabus

Pattern And Marking Scheme

| Class | Topic/Section | No. of <br> Questions | Marks per Questions | Total Marks |
| :---: | :---: | :---: | :---: | :---: |
|  | Practical Mathematics | 25 | 1 | 25 |
| $1^{\text {st }}$ to $4^{\text {th }}$ | Achiever's Section | 10 | 2 | 20 |
|  | Grand Total | $\mathbf{3 5}$ | - | $\mathbf{4 5}$ |
|  | Practical Mathematics | 40 | 1 | 40 |
| $5^{\text {th }}$ to $10^{\text {th }}$ | Achiever's Section | 10 | 2 | 20 |
|  | Grand Total | $\mathbf{5 0}$ | - | $\mathbf{6 0}$ |

1. A bucket contains $20 \frac{1}{4}$ litre of water. A small jug has a capacity of $3 / 4$ litre. How many times the jug has to be filled with water from the bucket to get it emptied?
(a) 15
(b) 17
(c) 27
(d) 31
2. Each side of a polygon is 2.9 m in length and its perimeter is 17.4 m . How many sides does the polygon have?
(a) 6
(b) 9
(c) 11
(d) 13
3. In a caravan, in addition to 50 hens, there are 45 goats and 8 camels with some keepers. If the total number of feet be 224 more than the number of heads, then find the number of keepers:
(a) 19
(b) 17
(c) 16
(d) 15

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4. A businessman man sells shirts at a profit of $121 / 2 \%$ and invests the proceeds to buy pants which he sells at a profit of $20 \%$. If he makes a net profit of Rs. 700 , then find the cost of the shirts:
(a) Rs. 2300
(b) Rs. 2000
(c) Rs. 2500
(d) Rs. 2400
5. The simple interest on a certain sum for 3 years at $8 \%$ per annum is Rs. 96 more than the simple interest on the same sum for 2 years at $9 \%$ per annum. Find the sum:
(a) Rs. 4800
(b) Rs. 3200
(c) Rs. 2400
(d) Rs. 1600
6. In the given figure, $A B \| C D$ and $C A$ has been produced to $E$ so that $\angle B A E=125^{\circ}$. If $\angle B A C=x^{\circ}=\angle A B D, \angle B D C=y^{\circ}$ and $\angle A C D=z^{\circ}$, then find the value of $y$ :

(a) $50^{\circ}$
(b) $85^{\circ}$
(c) $125^{\circ}$
(d) $175^{\circ}$
7. In the following figure, $A B C D$ is a parallelogram. The area of triangle EFG is equal to 6 $\mathrm{cm}^{2}$ and $D E=E F=1 / 3$ of $C D$. Find the area of parallelogram $A B C D$ :

(a) $72 \mathrm{~cm}^{2}$
(b) $56 \mathrm{~cm}^{2}$
(c) $62 \mathrm{~cm}^{2}$
(d) $75 \mathrm{~cm}^{2}$

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8. A rectangular ground is 90 m long and 32 m broad. In the middle of the ground, there is a circular tank of radius 14 m . Find the cost of turfing the remaining portion at the rate of Rs. 50 per square:
(a) Rs. 1,1320
(b) Rs. 113,200
(c) Rs. 125,650
(d) Rs. 15,800

## Achiever's Section

9. Which of the following statement(s) is/are true, if:
(1) The quotient of two integers is always a rational number.
(2) $1 / 0$ is not rational.
(a) 1 is true and 2 is the correct explanation of 1.
(b) 1 is true and 2 is false.
(c) 1 is false and 2 is the correct explanation of 1 .
(d) Both 1 and 2 are false.
10. The measurements of the triangle DEF are given below: $E F=8.4 \mathrm{~cm}, \angle \mathrm{E}=103^{\circ}$ and $\angle \mathrm{F}=85^{\circ}$. Which of the above statements is true?
(a) Triangle DEF can be constructed.
(b) It is an obtuse angled triangle.
(c) It is an acute angled triangle.
(d) Triangle DEF cannot be constructed.

## Answers

1. (c), 2. (a), 3. (d), 4. (b), 5. (d), 6. (c), 7. (a), 8. (b), 9. (c), 10. (d).
