

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

Pattern And Marking Scheme

Class	Topic/Section	No. of Questions	Marks per Questions	Total Marks
1 st to 4 th	Practical Mathematics	25	1	25
	Achiever's Section	10	2	20
	Grand Total	35	-	45
5 th to 10 th	Practical Mathematics	40	1	40
	Achiever's Section	10	2	20
	Grand Total	50	-	60

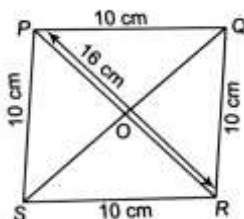
1. What is the result obtained when the additive inverse of $\frac{5}{6}$ is subtracted from the multiplicative inverse of $-\frac{5}{7} \times \frac{14}{15}$?

(a) $\frac{3}{2}$ (b) $-\frac{2}{3}$
(c) $-\frac{3}{2}$ (d) $\frac{2}{3}$

2. One number is thrice of another number. If 15 is added to both the numbers, then one of the new numbers becomes twice that of the other number. Find the numbers:

(a) 15 and 60 (b) 30 and 45
(c) 15 and 30 (d) 15 and 45

3. If the side of a rhombus is 10 cm and one diagonal is 16 cm, then find the area of the rhombus PQRS:



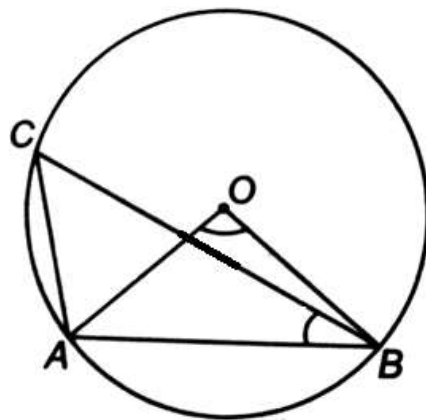
(a) 48 cm^2 (b) 80 cm^2
(c) 96 cm^2 (d) 112 cm^2

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4. Garima purchased a briefcase with an additional 10% discount on the reduced price after deducting 20% on the labelled price. If the labelled price was Rs. 1400, then at what price did she purchase the briefcase?

(a) Rs. 980
(b) Rs. 1008
(c) Rs. 1056
(d) Rs. 1120

5. In the following figure, $\angle AOB = 90^\circ$ and $\angle ABC = 30^\circ$. Find the value of $\angle CAO$:



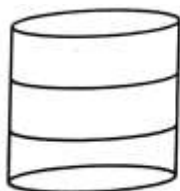
(a) 30°
(b) 45°
(c) 60°
(d) 90°

6. A man bought a rectangular field of length 144 m and width 64 m. In exchange for this field, he wanted to buy a square field of the same area. What would be the side of the square field?

(a) 96 m
(b) 208 m
(c) 104 m
(d) 416 m

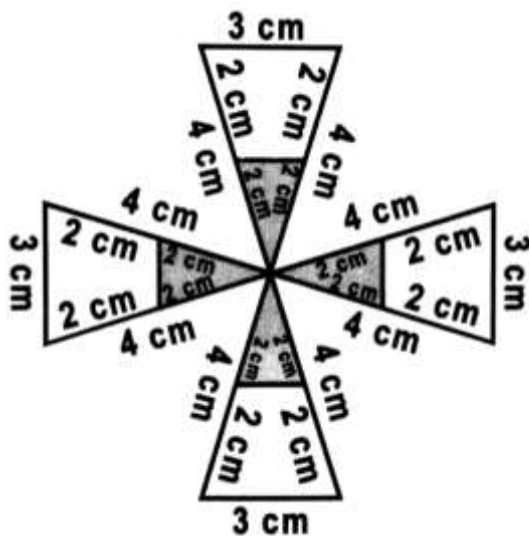
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7. In the following figure, the frame of a lampshade is given. It is to be covered with a decorative cloth. The frame has a base diameter of 20 cm and height of 30 cm. A margin of 2.5 cm is to be given for holding it over the top and bottom of the frame. Find how much cloth is required for covering the lampshade:



- (a) 1200 cm^2 (b) 1500 cm^2
(c) 1800 cm^2 (d) 2200 cm^2

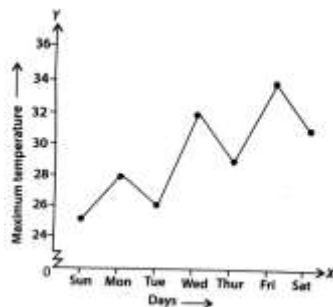
8. Arti made an arrangement with shaded and unshaded paper sheets as shown in the figure. Find the total area of shaded paper sheets in making the arrangement:



- (a) $\frac{9}{4} (\sqrt{55}) \text{ cm}^2$ (b) $\frac{8}{5} (\sqrt{11}) \text{ cm}^2$
(c) $\frac{16}{9} (\sqrt{55}) \text{ cm}^2$ (d) $\frac{6}{5} (\sqrt{11}) \text{ cm}^2$

Achiever's Section

9. Look at the graph and answer the following questions:



- I. On which day was the temperature 31°C ?
- II. On which day was the temperature the least?
- III. Which was the hottest day, respectively?

- (a) Saturday, Sunday, Friday
- (b) Sunday, Monday, Tuesday
- (c) Monday, Sunday, Friday
- (d) Wednesday, Saturday, Wednesday

10. Which of the following steps is incorrect while constructing a rhombus ABCD, given that $AC = 8\text{ cm}$ and $BD = 6\text{ cm}$?

Step I: Draw $AC = 8\text{ cm}$.

Step II: Draw PQ, the perpendicular of AC. PQ intersects AC at point O.

Step III: With O as centre and radius equal to 3 cm, drawn an arc cutting OP at D.

Step IV: With O as centre and radius equal to 3 cm, draw another arc cutting OQ at B.

Step V: Join AB, BC, CD and DA.

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|------------------|-----------------------------|
| (a) Step II only | (b) Step III only |
| (c) Step IV only | (d) Both step II and step V |

Answers

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