



CREST Mathematics Olympiad (CMO)

Sample Paper

Pattern and Marking Scheme

Grade	Topic/Section	No. of Questions	Marks per Question	Total Marks
Grade 7	Practical Mathematics	40	1	40
	Achiever's Section	10	2	20
Grand Total		50		60

The total duration of the exam is 60 minutes.

Syllabus

Section 1: Integers, Fractions and Decimals, Exponents and Powers, Algebraic Expressions, Simple Linear Equations, Lines and Angles, Comparing Quantities, The Triangle and its Properties, Symmetry, Congruence of Triangles, Rational Numbers, Perimeter and Area, Data Handling, Visualizing Solid Shapes, Practical Geometry.

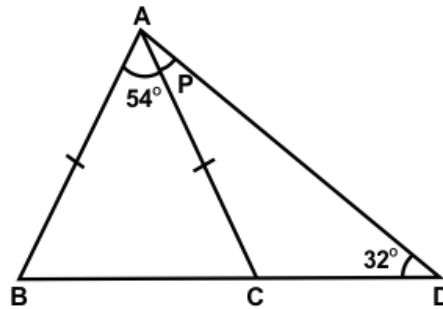
Achievers Section: Higher Order Thinking Questions - Syllabus as per Section 1

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

- a. $x = (y - 1)/2$
 c. $x = (y/2) - 1$

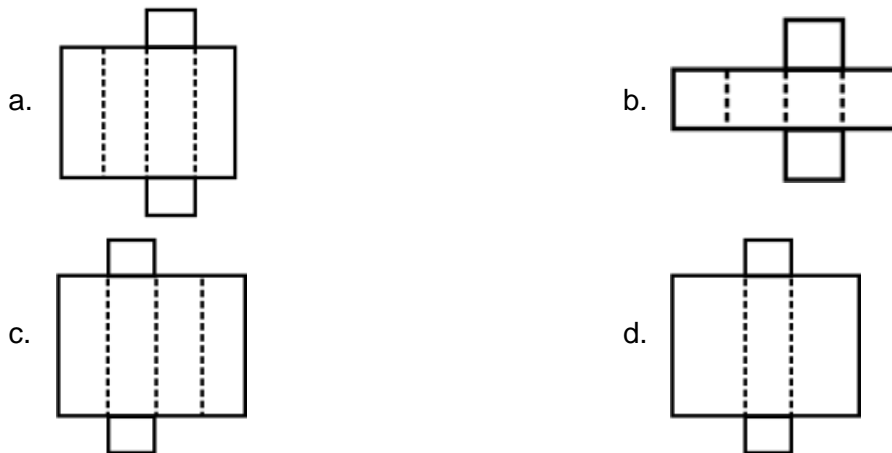
- b. $x = 2y - 1$
 d. $x = (y + 1)/2$

37. In the figure shown below, ABC is an isosceles triangle and BCD is a straight line. The value of p is:

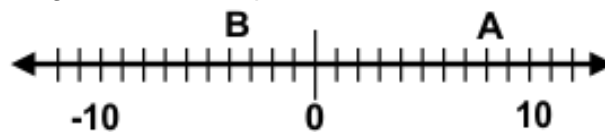


- a. 29°
 b. 31°
 c. 42°
 d. 53°

38. Which of these nets matches that of a cube?

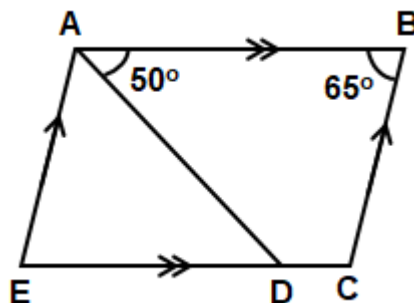


39. In which of the following situations evaporation does not cause cooling?



- a. B is greater than -10
 b. A is greater than 0
 c. A is greater than B
 d. B is greater than 0

40. In the figure, ABCE is a parallelogram. Find $\angle ADC$:



- a. 130°
c. 50°

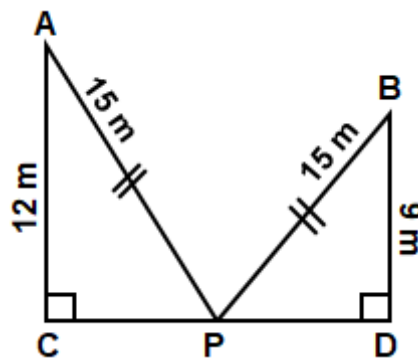
- b. 150°
d. 115°

Achiever's Section (Each Question is 2 Marks)

41. There are 4 cubical containers arranged in ascending order of their heights. If the biggest one has a height of $2x/17 = 13.5$ cm and the other containers are in the heights of $x/8$, $x/4$ and $x/2$, respectively, then find the heights of the other three containers respectively.

- a. 11.234 cm, 24.6875 cm, 59.75 cm b. 14.344 cm, 28.6875 cm, 57.375 cm
c. 12.344 cm, 22.425 cm, 54.25 cm d. 14.344 cm, 21.6875 cm, 51.25 cm

42. Find the length of CD.



- a. 9 m b. 12 m
c. 21 m d. 24 m

43. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, then approximately what percentage of the selling price is the profit?

- a. 30% b. 70%
c. 100% d. 250%

44. For the purchase of a building, a man has to pay \$17,000 when a single discount of 15% is allowed. How much will he have to pay for it if two successive discounts of 5% and 10%, respectively are allowed?

- a. \$17,000 b. \$17,010
c. \$17,100 d. \$18,000

45. A laptop is listed at \$1400 and the discount offered is 10%. What additional discount must be given to bring the net selling price to \$1200?

- a. $16\frac{2}{3}\%$ b. 5%
c. $4\frac{16}{21}\%$ d. 6%

46. An article is listed at \$900 and two successive discounts of 8% and 8% are given on it. How much would the seller gain or lose, if he gives a single discount of 16%, instead of two discounts?

