THE ASIAN SCHOOL
WINTER VACATION WORKSHEET
MATHEMATICS- VIII

Q (1): A cuboid has a volume of $275\ cm^3$ and base area of $25\ cm^2$. What is its height ?

(a) 12 cm (b) 11 cm (c) 10 cm (d) 8 cm

Q (2): A godown is in the for$0.8\ m^3$ of a cuboid of measure 60 m × 40 m × 30 m. How many cuboidal boxes can be stored in it if the volume of one box is ?

(a) 60,000 (b) 80,000 (c) 90,000 (d) 1,00,000

Q (3): A rectangular piece of paper 11 cm × 4 cm is folded without overlapping to make a cylinder of height 4 cm. What is the volume of this cylinder?

(a) $48.5\ cm^3$ (b) $38.5\ cm^3$ (c) $28.5\ cm^3$ (d) $58.5\ cm^3$

Q (4): A cuboid is of dimensions 60 cm × 54 cm × 30 cm. How many small cubes with side 6 cm can be placed in the given cuboid?

(a) 225 (b) 425 (c) 450 (d) 250

Q (5): What is the height of a cylinder whose volume is $1.54\ m^3$and the diameter of the base is 140 cm ?

(a) 1 m (b) 10 m (c) 5 m (d) 3 m

Q (6): How many small cubes with an edge of 20 cm each can be just accommodated in a cubical box of 2 m edge?

(a) 10 (b) 100 (c) 1000 (d) 10000

Q (7): What is the capacity of a water tank, in litres, whose dimensions are 4.2 m, 3 m and 1.8 m?

(a) 22660 L (b) 22680 L (c) 26660 L (d) 222680 L

Q (8): The dimensions of a rectangular water tank are 2 m 75 cm by 1 m 80 cm by 1 m 40 cm. How many litres of water does it hold when filled to the brim?

(a) 3960 L (b) 6390 L (c) 6930 L (d) 3096 L

Q (9): A cardboard box is 1.2 m long, 72 cm wide and 54 cm high. How many bars of soap can be put into it if each bar measures 6 cm × 4.5 cm × 4 cm?

(a) 234 bars (b) 5648 bars (c) 3650 bars (d) 4320 bars

Q (10): The size of a matchbox is 4 cm × 2.5 cm × 1.5 cm. What is the volume of a packet containing 144 matchboxes? How many such packets can be placed in a carton of size 1.5 m × 84 cm × 60 cm?

(a) 756000 cubic cm, 150 packets (b) 756000 cubic cm, 350 packets (c) 756000 cubic cm, 240 packets (d) 756000 cubic cm, 100 packets

Q (11): The rainfall recorded on a certain day was 5 cm. Find the volume of water that fell on a 2-hectare field.

(a) 500 cubic m (b) 1000 cubic m (c) 100 cubic m (d) 2000 cubic m

Q (12): A pit 5 m long and 3.5 m wide is dug to a certain depth. If the volume of earth taken out of it is 14 cubic m, what is the depth of the pit?

(a) 18cm (b) 40cm (c) 80 cm (d) 60 cm

Q (13): A rectangular water tank is 90 cm wide and 40 cm deep. If it can contain 576 litres of water, what is its length?

(a) 1.060 m (b) 1.600 m (c) 16.00 m (d) 1.800 m

Q (14): An aquarium is in the form of a cuboid whose external measures are 80 cm × 30 cm × 40 cm. The base, side faces and back face are to be covered with a coloured paper. The area of the paper needed is ?

(a) 8600 cm^2 (b) 8000 cm^2 (c) 9000 cm^2 (d) 9600 cm^2

Q (15): The internal measures of a cuboidal room are 12 m × 8 m × 4 m. Find the total cost of whitewashing all four walls of a room, if the cost of white washing is Rs 5 per m^2.

(a) 480 rupees (b) 500 rupees (c) 580 rupees (d) 800 rupees

Q (16): In a building there are 24 cylindrical pillars. The radius of each pillar is 28 cm and height is 4 m. Find the total cost of painting the curved surface area of all pillars at the rate of 8 Rs per m^2.

(a) 1362.68 rupees (b) 1381.68 rupees (c) 1351.68 rupees (d) 1324.68 rupees

Q (17): Find the height of a cylinder whose radius is 7 cm and the total surface area is 968 cm^2..

(a) 20 cm (b) 15 cm (c) 25 cm (d) 10 cm

Q (18): If the radius of a cylinder is tripled but its curved surface area is unchanged, then its height will be ?

(a) tripled (b) constant (c) one sixth (d) one third

Q (19): Three cubes of metal whose edges are 6 cm, 8 cm and 10 cm respectively are melted to form a single cube. The edge of the new cube is ?

(a) 12 cm (b) 24 cm (c) 18 cm (d) 20 cm

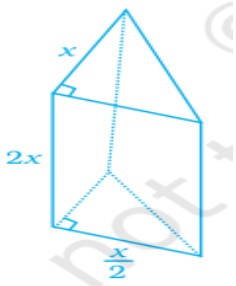
Q (20): Two cubes have volumes in the ratio 1:64. The ratio of the area of a face of first cube to that of the other is ?

(a) 1:4 (b) 1:8 (c) 1:16 (d) 1:32

Q (21): The walls and ceiling of a room are to be plastered. The length, breadth and height of the room are 4.5 m, 3 m, and 350 cm respectively. What is the cost of plastering at the rate of Rs 8 per m^2?

(a) Rs 1062 (b) Rs 528 (c) Rs 640 (d) Rs 550

Q (22):



In the above figure, What is the volume of the figure?

(a) $x^3/2$ (b) $x^3/3$ (c) $x^3/4$ (d) x^3

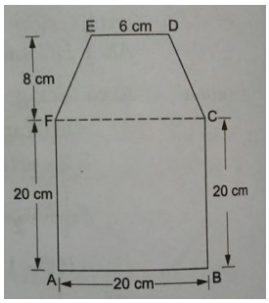
Q (23): Three cubes each of side 10 cm are joined end to end. What is the surface area of the resultant figure?

(a) 1600 cm^2 (b) 1400 cm^2 (c) 1200 cm^2 (d) 1000 cm^2

Q (24): The area of a trapezium shaped field is 480 m^2, the distance between two parallel sides is 15 m and one of the parallel sides is 20 m. The other parallel side is ?

(a) 40 m (b) 44 m (c) 20 m (d) 22m

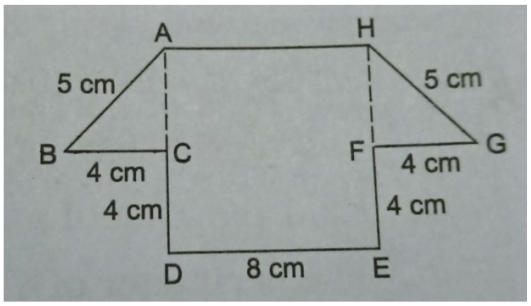
Q (25):



In the above image, find the area enclosed in cm^2 by the given figure ABCDEF as per the dimensions given.

(a) 540 (b) 504 (c) 450 (d) 405

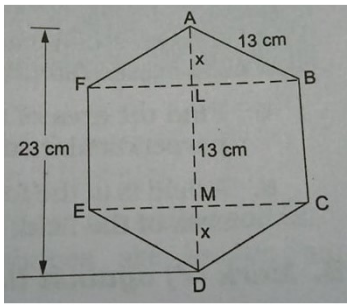
Q (26):



In the above image, find the area of the given figure ABCDEFGH in cm^2 as per dimensions given in it.

(a) 86 (b) 52 (c) 25 (d) 68

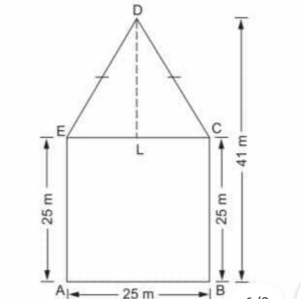
Q (27):



In the above image, find the area of regular hexagon ABCDEF in cm^2 whose each side is 13 cm and height is 23 cm.

(a) 423 (b) 324 (c) 432 (d) 342

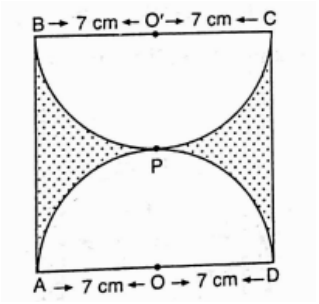
Q (28):



In the given figure ABCDE is a pentagonal park in which DE = DC, AB = BC = CE = EA = 25 m and its total height is 41 m. Find the area of the park.

(a) 825 m^2 (b) 826 m^2 (c) 827 m^2 (d) 828 m^2

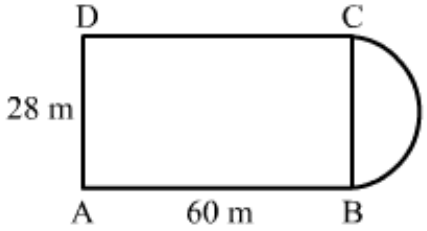
Q (29):



From the given figure, Find the area of the shaded region, if ABCD is a square of side 14 cm and APD and BPC are semi-circles.

(a) 42 cm² (b) 20 cm² (c) 100 cm² (d) 125 cm²

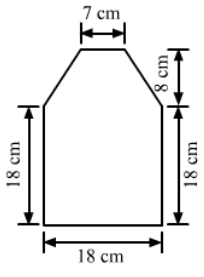
Q (30):



In the above figure, a plot is in the form of a rectangle ABCD having a semi-circle on BC. If AB = 60 m and BC = 28 m, find the area of the plot.

(a) 1998 sq cm (b) 1111 sq cm (c) 1388 sq cm (d) 1988 sq m

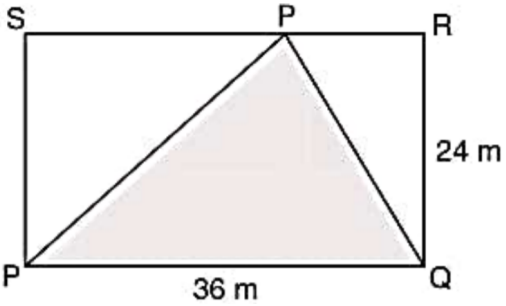
Q (31):



Find the area enclosed by the above figure as the sum of the areas of a rectangle and a trapezium.

(a) 334 sq cm (b) 424 sq cm (c) 384 sq cm (d) NONE OF THESE

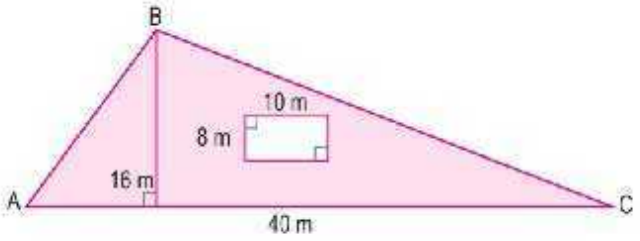
Q (32):



From the above figure, find the area of the shaded portion.

(a) 432 m² (b) 43 m² (c) 532 m² (d) 632 m²

Q (33):



From the above image, Find the area of the shaded region.

(a) 240 m² (b) 241 m² (c) 242 m² (d) 243 m²

Q (34): Express in standard form 4050000.

(a) 4.05×10^6 (b) 40.5×10^6 (c) 4.05×10^2 (d) 4.05×10^4

Q (35): Express in usual form 3.52×10^5

(a) 3520 (b) 3.52 (c) 352000 (d) 352

Q (36): Express in usual form 7.54×10^{-4}

(a) 0.00754 (b) 0.000754 (c) 754 (d) 0.754

Q (37): Express in standard form 0.0000000000085

(a) 8.5×10^{-12} (b) 8.5×10^{-10} (c) 8.5×10^{-15} (d) 7.5×10^{-12}

Q (38): Find x so that $(-5)^{x+1} \times (-5)^5 = (-5)^7$.

(a) 0 (b) 1 (c) 2 (d) -1

Q (39): The value of $(7^{-1} - 8^{-1})^{-1} - (3^{-1} - 4^{-1})^{-1}$ is

(a) 68 (b) 56 (c) 44 (d) 12

Q (40): $[4^{-1} + 3^{-1} + 6^{-2}]^{-1} =$

(a) $\left(\frac{19}{11}\right)$ (b) $\left(\frac{18}{11}\right)$ (c) $\left(\frac{20}{11}\right)$ (d) $\left(\frac{21}{11}\right)$

Q (41): Find the value of n in $\frac{2^n \times 2^6}{2^{-3}} = 2^{18}$

(a) 8 (b) 9 (c) 7 (d) 6

Q (42): Simplify: $\frac{125 \times x^{-3}}{5^{-3} \times 25 \times x^{-6}}$.

(a) $625x^6$ (b) $625x^2$ (c) $625x^3$ (d) $625x^5$

Q (43): If $\frac{5^m \times 5^3 \times 5^{-2}}{5^{-5}} = 5^{12}$, find m.

(a) 6 (b) 5 (c) 4 (d) 3

Q (44): Find x. $-\frac{1}{7}^{-5} \div (-\frac{1}{7})^{-7} = (-7)^x$

(a) 1/2 (b) 3/2 (c) 2 (d) -2

Q (45): Find x. $\frac{2}{5}^{2x+6} \times (\frac{2}{5})^3 = \frac{2}{5}^{x+2}$

(a) 5 (b) -6 (c) -7 (d) 7

Q (46): If a = – 1, b = 2, then find the value of $a^b + b^a$

(a) 1/2 (b) 3/2 (c) 2 (d) -2

Q (47): What is the expression of $\frac{-1296}{14641}$ exponential form?

(a) $(\frac{-6}{11})^3$ (b) $(\frac{-6}{11})^4$ (c) $(\frac{-6}{11})^{-3}$ (d) $(\frac{-6}{11})^{-4}$

Q (48): What is the expression of $\frac{-125}{343}$ exponential form?

(a) $(\frac{5}{7})^2$ (b) $(\frac{5}{7})^3$ (c) $(\frac{5}{7})^{-3}$ (d) $(\frac{-5}{7})^3$

Q (49): Simplify: $\frac{(9)^3 \times 27 \times t^4}{(3)^{-2} \times (3)^4 \times t^2}$

(a) $3^7 \times t^3$ (b) $3^7 \times t^2$ (c) $3^{-7} \times t^2$ (d) $(-3)^7 \times t^2$

Q (50): Simplify: $\frac{(3^{-2})^2 \times (5^2)^{-3} \times (t^{-3})^2}{(3^{-2})^5 \times (5^3)^{-2} \times (t^{-4})^3}$

(a) $(3t)^6$ (b) $(4t)^7$ (c) $(5t)^6$ (d) $(7t)^9$