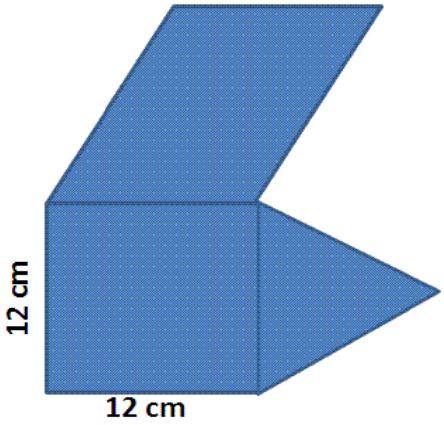
Q – 1. $a-b=7$, $a+b=15$ then a^2+b^2 =-----:

a) 49 b) 225 c) 274 d) 137

Q – 2. *Find* (y^2+x^2) *if* $3:5:11=9:x:y$

a) 1216 b) 1364 c) 1314 d) 1186

Q – 3. The perimeter of the square below is one-third of the perimeter of parallelogram and half of the triangle. If one side of the square is 12 cm, find the perimeter of whole figure?



a) 240 cm b) 144 cm c) 112cm d) 96 cm

Q – 4. Distribute Rs. 1350/- among Ahmad, Farhan and Kashif in the ratio 4: 3: 2 respectively. How much more will Farhan take than Kashif?

a) Rs.450 b) Rs.150 c) Rs.540 d) Rs.480

Q – 5. A car was purchased for Rs. 500,000 and was sold for Rs 350,000. What is the percentage of loss?

a) 20 % b) 25 % c) 30 % d) 35 %

Q – 6. What will replace question mark?

4	5
9	8

9	7
12	14

15	?
30	21

a) 6 b) 15 c) 18 d) 24

Q – 7. What is the simplest form of $41^2 - 82 + 1$?

a) 1500 b) 1400 c) 1600 d) 1550

Q – 8. One diagonal of a rhombus is 24 cm. Find the length of the other diagonal if each side is of the rhombus measures 13 cm.

a) 10 cm b) 12 cm c) 11 cm d) 18 cm

Q – 9. Which one of the following is the factor of $108a^3-72a^2+12a$?

a) $3a+1$ b) a^2 c) $3a-1$ d) $6a+1$

Q – 10. What will replace question mark?

5 Ω 7 = 24; 4 Ω 9 = 65; 6 Ω ? = 64

a) 17 b) 15 c) 12 d) 10

Q – 11. $\dfrac{4x^2+y^2-4xy-9}{4x^2-y^2+6y-9}=?$

a) 1 b) $\dfrac{2x-y-3}{2x+y-3}$

c) $\dfrac{2x-y}{2x+y}$ d) $\dfrac{2x-y+3}{2x+y-3}$

Q – 12. What is $x^2+\dfrac{25}{x^2}$, if $x^2-3x+5=0$?

a) - 1 b) 5 c) 8 d) - 4

Q – 13. $\sqrt{6+\sqrt{6+\sqrt{6+\sqrt{6+\sqrt{6}}}}}\ \ldots\ldots\ldots=?$

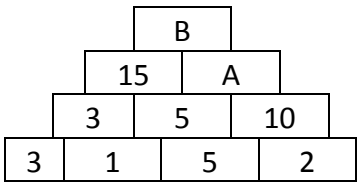
a) 9 b) 6 c) 4 d) 3

Q – 14. Factorize x^3-x^2-x+1 completely.

a) $(x-1)^2(x+1)$ b) $(x+1)(x^2+1)$

c) $(x^2-1)(x^2+1)$ d) $(x-1)(x^2+1)$

Q – 15. What is B-A =?



a) 180 b) 330 c) 700 d) 900

Q – 16. Given that the area of a circle is 36π cm^2. What is the value of its perimeter?

a) 16π cm b) 12π cm c) 8π cm d) 6π cm

Q – 17. What is the missing term of the pattern?

1, 1, 2, 3, 3, 5, 4, 7, 5, 9, ?

a) 11 b) 9 c) 7 d) 6

Q – 18. What is the simplest form of

$$\frac{(-xy)^3}{x^3y^{-7}}\div\frac{2x^3y}{(-4x^2y^3)^2}$$

a) $-8xy^{10}$ b) $-8xy^{15}$ c) $\dfrac{-8}{xy^{15}}$ d) $-2xy^{15}$

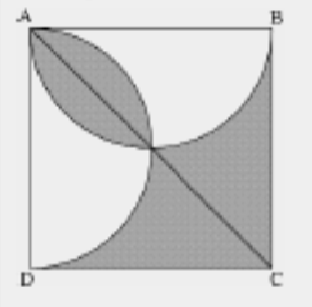
Q – 19. If $\dfrac{2a-3b}{3b-2a}=\dfrac{1}{2}$, then $\left(\dfrac{a+b}{b}\right)\left(\dfrac{b-a}{a}\right)=?$

a) $\dfrac{5}{4}$ b) $\dfrac{-7}{4}$ c) $\dfrac{-5}{6}$ d) $\dfrac{3}{7}$

Q – 20. If $\dfrac{x+7}{3}-\dfrac{3x-2}{5}=1$ then find x.

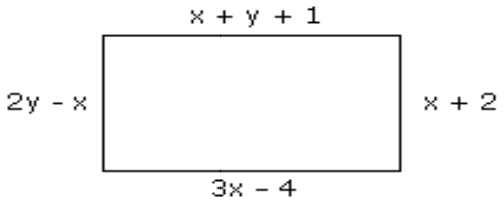
a) 6 b) $6\dfrac{1}{2}$ c) 7 d) $-7\dfrac{1}{2}$

Q – 21. Two semicircles with diameters AB and AD were inscribed in square ABCD. If AB=2cm, then what is the area of the shaded region?



a) 2 cm^2 b) 3cm^2 c) 2π cm^2 d) 3π cm^2

Q – 22. The measurements of the following rectangle are in cm. What is the area of rectangle?



a) 112 cm^2 b) 42 cm^2 c) 84 cm^2 d) 56 cm^2

Q – 23. Zafar painted his bedroom except floor and ceilings. The dimensions of Zafar's room are width = 4 m, height = 3 m, and length = 5m. How much surface area did Zafar paint, in m^2?

a) 60 m^2 b) 74 m^2 c) 94 m^2 d) 54 m^2

Q – 24. The sum of the cubes of two consecutive integers is 189. What are the numbers?

a) 5and 6 b) 6 and 7
c) 4 and 5 d) 7 and 8

Q– 25. Ten years ago a father was 8 times the age of the son. If the sum of the ages of a man and his son is now 56.What are their present ages?

a) 24 and 32 b) 14 and 42
c) 20 and 36 d) 16 and 40

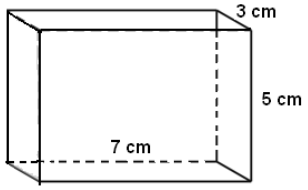
Q – 26. The volumes of a cylinder and a sphere with equal radii r are equal. What is height of the cylinder in terms of r?

a) 4r b) 2r c) $\frac{4r}{3}$ d) $\frac{r}{3}$

Q – 27. $\sqrt{1+\sqrt{5+\sqrt{9+\sqrt{36+\sqrt{169}}}}}$ ..... = ?

a) 2 b) 8 c) 13 d) 17

Q – 28. What is the outer surface area of the given box if its top is open?



a) 121 cm^2 b) 137 cm^2 c) 142 cm^2 d) 107 cm^2

Q – 29. What is the sum of the exterior angles of a 16-sided polygon?

a) 720^o b) 360^o c) 180^o d) 1080^o

Q – 30. If $\frac{1}{3} + \frac{2}{1 + \frac{1}{1 - \frac{3}{x}}} = 1$; find x?

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

Q – 31. What is sum of the value of an interior angle and an exterior angle of a regular 8-sided polygon?

a) 720^o b) 360^o c) 180^o d) 90^o

Q – 32. A building project takes 15 men working 8 hours daily 12 days to complete. How long will it take for 5 men to finish same project working 6 hours daily?

a) 27 days b) 32 days c) 36 days d) 48 days

Q – 33. $\frac{0.00036 \times 10^8 + 4 \times 10^3}{0.07 \times 10^4 + 3 \times 10^2}$ =?

a) 40 b) 0.04 c) 10 d) 0.07

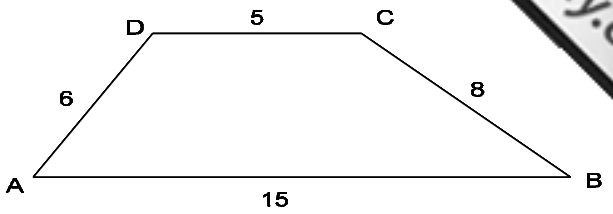
Q – 34. If $K = \frac{3m^3 - 4n^2}{3n + 2m}$,
what is the value of K when m = 4 and n = -2.

a) 16 b) 64 c) 88 d) 128

Q – 35. Which one of the following is a factor of $4x^4-13x^2y^2+y^4$?

a) x-y b) 2x-y
c) $2x^2-y^2-3$ d) $2x^2-y^2-3xy$

Q – 36. What is the area of given trapezium?



a) $\frac{128}{7}$ cm^2 b) 48 cm^2 c) 72 cm^2 d) $\frac{181}{3}$ cm^2

Q – 37. If $x = \frac{7+3a}{a-4}$; make "a "as subject of the formula.

a) $a = \frac{7+3x}{x-4}$ b) $a = \frac{7+4x}{x+3}$
c) $a = \frac{7-4x}{x-3}$ d) $a = \frac{7+4x}{x-3}$

Q – 38. $\frac{0.4-0.8}{0.4-\frac{1}{0.8}} + \frac{0.8-0.4}{\frac{2}{5}-\frac{5}{4}} + \frac{1}{2} = ?$

a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{6}$ d) $\frac{1}{8}$

Q – 39. One alloy is consisting of 25% silver and another is consisting of 40% silver. How much of each should be used to produce 60 kg of an alloy that is 30% silver?

a) 40 kg and 20 kg b) 50 kg and 10 kg
c) 30 kg and 30 kg d) 35 kg and 25 kg

Q – 40. The number x was multiplied by 0.5 and the product was divided by 7. The result was squared and 1 was added to it. The final result was 122. What was the value of number x?

a) 22 b) 77 c) 122 d) 154

Q – 41. Make $2^{22} + 2^{17}$ perfect square by adding:

a) 2^{14} b) 2^{11} c) 2^{10} d) 2^{9}

Q – 42. If $\frac{3}{3-x}+\frac{5}{6-2x}-\frac{2}{x-3}=-\frac{15}{2}$ then x=?

a) 3 b) 4 c) 5 d) $\frac{3}{4}$

Q – 43. $\frac{y}{x}+\frac{x}{y}=\frac{26}{5}$. What is the value of $\frac{y}{x}$?

a) 4/5 b) 1/3 c) 5 d) 6

Q – 44. $\frac{1}{a^3}+\frac{1}{b^3}=\left(\frac{1}{a}+\frac{1}{b}\right)\times$.....

a) $\left(\frac{1}{a^2}+\frac{1}{ab}+\frac{1}{b^2}\right)$ b) $\left(\frac{1}{a^2}+2\frac{1}{ab}+\frac{1}{b^2}\right)$

c) $\left(\frac{1}{a^2}-\frac{1}{ab}+\frac{1}{b^2}\right)$ d) $\left(\frac{1}{a^2}-2\frac{1}{ab}+\frac{1}{b^2}\right)$

Q – 45. What is the half of the number 2^{30} ?

a) 2^{15} b) 1^{30} c) 2^{19} d) 2^{29}

Q – 46. 7 □ 4 = 14,

16 ⬭ 8 = 4

(8 □ 3) + (10 ⬭ 6) =?

a) 14 b) 19 c) 17 d) 15

Q – 47. $\frac{5}{0.005}\times\frac{(0.2-0.02)}{100}=?$

a) 1.8 b) 0.3 c) 9 d) 0.9

Q – 48.

I. 3a ● 2b = a - b

II. a ■ b = (a x b)/3

III. (15 ● 4) ■ 5 =**?**

a) 4 b) 5 c) 2 d) 3

Q – 49. 2 ducks in front of 2 ducks, 2 ducks behind 2 ducks, 2 ducks next to 2 ducks, what is the minimum number of ducks are there?

a) 2 b) 4 c) 8 d) 16

Q.50. Radius of the back wheel of a truck is 3 times bigger than the radius of the front wheel of same truck. How far will front wheel travel if back wheel is travelling 90 km?

a) 30 km b) 60 km c) 90 km d) 270 km

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