Q1: Evaluate $\sqrt{12^2+5^2}-\sqrt{8^2+6^2}$

A) 3   B) 4   C) 6   D) 8

Q2: Evaluate $\dfrac{1}{\sqrt{0.01}}-\dfrac{1}{\sqrt{0.25}}$

A) 4   B) 6   C) 7   D) 8

Q3: $(20+40\div8)+(80+15\times6)=?$

A) 275   B) 315   C) 225   D) 195

Q4: Find x if $\dfrac{1}{x}+\dfrac{2}{x}+\dfrac{3}{x}+\dfrac{4}{x}=\dfrac{20}{6}$

A) 1   B) 2   C) 3   D) 4

Q5: It is given that $\dfrac{a}{2}=\dfrac{b}{3}=\dfrac{c}{4}=3$. What is the value of $2a+3b+4c$?

A) 87   B) 65   C) 27   D) 51

Q6: What least number must be added to 1056, so that the sum is completely divisible by 23?

A) 2   B) 3   C) 4   D) 5

Q7: What percentages of numbers from 1 to 70 have 1 or 9 in the unit's digit?

A) 18%   B) 20%   C) 24%   D) 27%

Q8: The set A has 6 elements and the set B has 4 elements. What is the least number of subsets of $A\cup B$?

A) 6   B) 10   C) 32   D) 64

Q9: Simplify $\left(\dfrac{1}{a+b}+\dfrac{1}{a-b}\right)\cdot(a^2-b^2)$

A) $-2b$ B) $-2a$ C) $2a$ D) $2b$

Q10: Evaluate $\dfrac{\left(\sqrt{2}-\sqrt{3}\right)^2+\sqrt{24}}{\sqrt{25}}$

A) 0 B) 1 C) $2\sqrt{5}$ D) $4\sqrt{5}$

Q11: If $A \cup B = \{a,b,c,d,e\}$ and $B - A = \{c,d\}$, then what is the number of elements of set A ?

A) 2   B) 3   C) 4   D) 5

Q12: It is given that $\dfrac{x}{2} = \dfrac{y}{3}$ and $y = 36$, then what is the value of x ?

A) 9   B) 18   C) 24   D) 32

Q13: If $5 - \dfrac{1}{1 - \dfrac{1}{2}} = a$, then what is a ?

A) 2   B) 3   C) 4   D) 5

Q14: Evaluate $\dfrac{\left(1+\dfrac{1}{2}\right)\left(1+\dfrac{1}{3}\right)\cdots\left(1+\dfrac{1}{18}\right)}{\left(2-\dfrac{1}{2}\right)\left(2-\dfrac{2}{3}\right)\cdots\left(2-\dfrac{17}{18}\right)}$

A) $\dfrac{19}{18}$ B) $\dfrac{2}{19}$ C) 1   D) $\dfrac{19}{2}$

Q15: Which of the following is correct?

A) $\dfrac{11}{7} < \dfrac{23}{16} < \dfrac{33}{25}$ B) $\dfrac{11}{7} < \dfrac{33}{25} < \dfrac{23}{16}$

C) $\dfrac{23}{16} < \dfrac{11}{7} < \dfrac{33}{25}$ D) $\dfrac{33}{25} < \dfrac{23}{16} < \dfrac{11}{7}$

Q16: If $2 + \dfrac{6}{3 + \dfrac{12}{x}} = 3$, then what is x ?

A) 6   B) 4   C) 3   D) 2

Q17: What will be the percentage increase in the area of a rectangle, if each of its sides is increased by 20%?

A) 52%   B) 48%   C) 44%   D) 42%

Q18: If $a = \dfrac{\sqrt{0.16} + \sqrt{2.25}}{\sqrt{0.25} + \sqrt{1.44}} + \dfrac{\sqrt{1.21}}{\sqrt{2.89}}$, then what is a ?

A) $\dfrac{17}{5}$ B) $\dfrac{13}{5}$ C) $\dfrac{30}{17}$ D) $\dfrac{15}{17}$

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Q19: If $\dfrac{x}{1+\dfrac{3}{2}} = \dfrac{y}{2-\dfrac{1}{3+\dfrac{1}{2}}}$, then what is $\dfrac{x}{y}$?

A) $\dfrac{35}{24}$ B) $\dfrac{17}{21}$ C) $\dfrac{15}{19}$ D) $\dfrac{13}{7}$

Q23: A train, running at the speed of 60 km/hr., crosses a bridge in 9 seconds. What is the length of the train?

A) 120 meters   B) 150 meters
C) 180 meters   D) 210 meters

Q20: A fort had provision of food for 150 men for 45 days. After 10 days, 25 men left the fort. What is the number of days for which the remaining food will last?

A) 36   B) 40   C) 42   D) 44

Q24: Excluding stoppages, the speed of a bus is 54 km/h and including stoppages, it is 45 km/h. For how many minutes does the bus stop per hour?

A) 10 min   B) 8 min
C) 12 min   D) 14 min

Q21: In a class of 25 boys, 17 boys play football, 12 boys play basketball and 5 boys play both games. How many boys do not play any game?

A) 3   B) 2   C) 1   D) 0

Q25: Simplify $\dfrac{1}{1+\dfrac{a}{b+c}} + \dfrac{1}{1+\dfrac{b}{a+c}} + \dfrac{1}{1+\dfrac{c}{a+b}}$

A) $a+b+c$ B) 2 C) abc D) 1

Q22: A rope is divided in three parts with a proportion of by 2, 3 and 5 respectively. What is the difference between the shortest part and the longest part in meters if the rope is 180 meters long?

A) 54   B) 52   C) 48   D) 36

Q26: In the first 10 overs of a cricket match, the run rate was only 3.2 per over. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

A) 5.25   B) 5.45   C) 6.25   D) 6.75

Q27: In a pond, there are 400 fish. 30% of them are guppies, 25% of them are mollies and the rest are swordtails. How many more swordtails as compared to guppies are there?

A) 40   B) 50   C) 60   D) 80

Q28: 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?

A) 10   B) 12   C) 13   D) 15

Q29: The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

A) 4   B) 6   C) 7   D) 8

Q30: The number n^2 is a perfect square. What is the next perfect square bigger than n^2?

A) $n^2 + 1$ B) $2\sqrt{n} + 1$

C) $n^2 + 2\sqrt{n} + 1$ D) $n^2 + 2n + 1$

Q31: A student mistakenly multiplied a number by $\dfrac{3}{5}$ instead of $\dfrac{5}{3}$. What is the percentage error in the calculation?

A) 44%   B) 54%   C) 64%   D) 74%

Q32: The average weight of 8 persons increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?

A) 70 kg   B) 80 kg   C) 75 kg   D) 85 kg

Q33:
$$\dfrac{\dfrac{1}{2} \div \dfrac{1}{3} \times \dfrac{4}{3} - \dfrac{1}{4}}{\dfrac{1}{2} \times \left[\left(\dfrac{1}{2} \times \dfrac{1}{3}\right) \div \dfrac{1}{4} + \dfrac{3}{4}\right]} = ?$$

A) $\dfrac{17}{48}$ B) $\dfrac{94}{24}$ C) $2\dfrac{14}{17}$ D) $\dfrac{42}{17}$

Q34: The product of first 15 prime numbers is equal to x. Which of the following number is the digit in unit place?

A) 0   B) 2   C) 3   D) 5

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Q35: If
$$A = 2014 - \frac{1}{2013}$$
$$B = 2014 + \frac{1}{2013}$$, then find the
$$C = 2013 + \frac{1}{2013}$$
ascending order of A, B and C.

A) A<B<C   B) A<C<B

C) C<A<B   D) B<A<C

Q36: Two ants started to walk from point A. One ant went on square while other one went on rectangle. How long one ant can walk until they meet again?
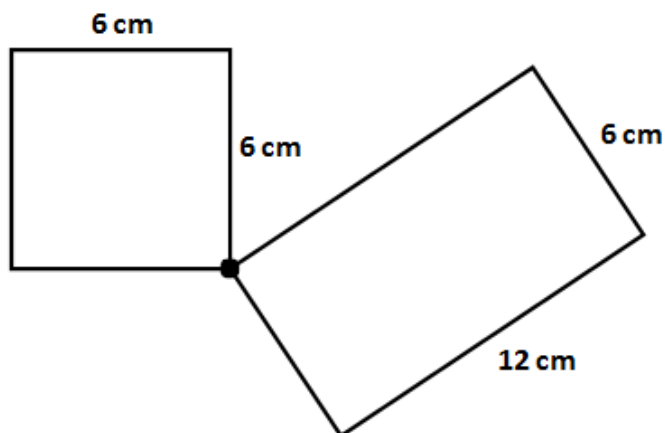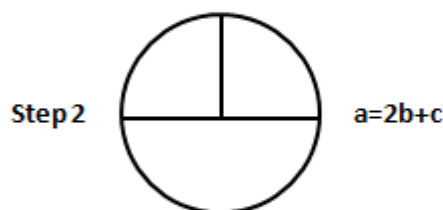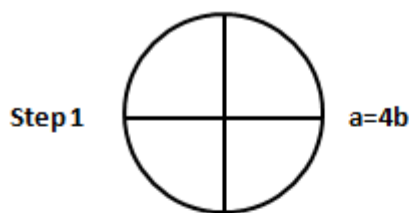

A) 72   B) 48   C) 36   D) 24

Q37: If
$$\begin{pmatrix} \frac{1}{a} + \frac{1}{b} = \frac{1}{3} \\ \frac{1}{b} + \frac{1}{c} = \frac{5}{6} \\ \frac{1}{c} + \frac{1}{a} = \frac{7}{12} \end{pmatrix}$$ then, $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = ?$

A) $\frac{7}{8}$ B) $\frac{3}{4}$ C) $\frac{5}{4}$ D) $\frac{1}{8}$
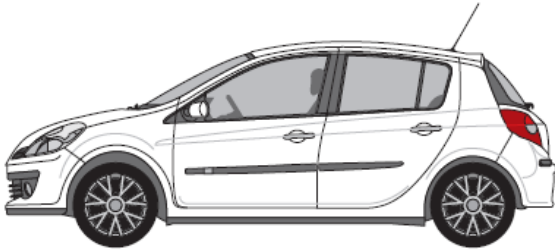
Q38: In each step, the shapes are denoted with letters according to a rule.

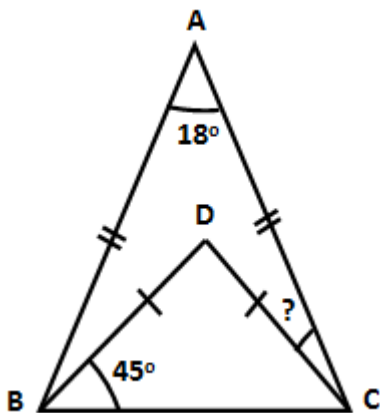Which of the following is wrong?

A) $a = b + 4d$ B) $a = 2c$

C) $a = c + 4d$ D) $a = 8d$

Q39: Ali decided to buy a car by paying $16000 in advance and continue with installments of 12 months at $750 per month. After some time he changed his mind and decided to buy the same car without installment for $20000. What percent of money did Ali save by changing his mind?
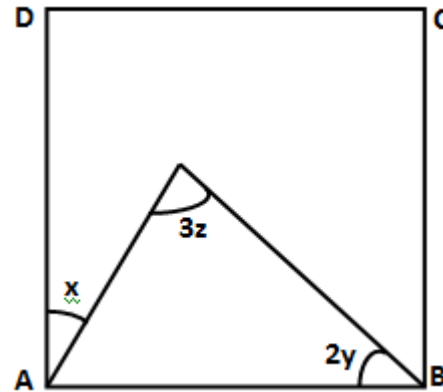

A) 24   B) 15   C) 16   D) 20

Q41: $ABCD$ is a square. $\angle DAE = x$, $\angle ABE = 2y$ and $\angle AEB = 3z$. Find the angle z in terms of x and y

A) $\dfrac{90 + x - 2y}{2}$ B) $\dfrac{90 + x - 2y}{3}$

C) $\dfrac{90 + x + 2y}{3}$ D) $\dfrac{90 - x - 3y}{2}$

Q40: $\triangle ABC$ and $\triangle BDC$ are two isosceles triangles. If $|AD| = |BC|$ and $|BD| = |DC|$,then find the value of x .
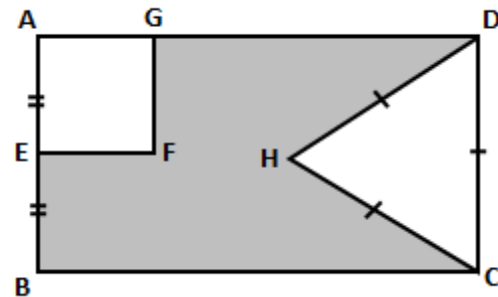

A) 45°   B) 44°   C) 32°   D) 36°

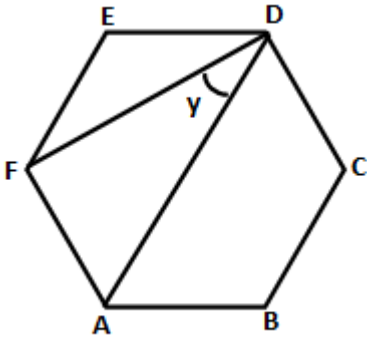**Q42:** ABCD is a rectangle, AEFG is a square, DHC is an equilateral triangle, $|AE| = |EB|$ and $|DC| = 4cm$

If the long side of rectangle is 4 times of short side, what is the perimeter of shaded region?

A) 44   B) 28   C) 34   D) 42

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Q43: ABCDE is a hexagon. Find the measure of the angle y ?

A) $45°$ B) $30°$ C) $60°$ D) $35°$

Q44: Brenda is 4 years older than Walter, and Carol is twice as old as Brenda. Three years ago, the sum of their ages was 35. How old is Brenda?

A) 15   B) 11   C) 12   D) 13

Q45: One of the products of a number is 7 times of the other one. What is the square of greater one if the number is 63?

A) 289   B) 900   C) 576   D) 441

Q46: The number of proper subsets of a set is 127. What is the number of elements of the set?

A) 5   B) 6   C) 7   D) 8

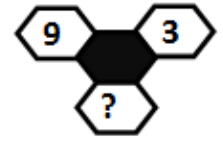**Q47:** What is the unknown number in the sequence given below?

A) 10   B) 5   C) 9   D) 15

Q48: What is the unknown number in the sequence given below?

A) 24   B) 27   C) 29   D) 31

Q49: If $\begin{matrix} x+y = \sqrt{5} \\ x.y = 2 \end{matrix}$

then what is $x^2 + y^2$.

A) -1 B) 1 C) 2 D) -2

Q50: The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

A) 4   B) 5   C) 6   D) 8

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