

Talent Battle's Daily Dose of Aptitude-08-07-2019

1. When I was 24, my mother was twice my age. Now I am 44, how old is my mother?

- a. 84
- b. 48
- c. 68
- d. 88

2. What is the area of an obtuse angled triangle given below with two sides are 8 and 12 and the angle included between two sides is 150 deg?

- a. 48 sq units
- b. 24 sq units
- c. 12 sq units
- d. 6 sq units

3. A natural number when increased by 12 equals 160 times its reciprocal. Find the number?

- a. 20
- b. 12
- c. 8
- d. 4

4. Which of the following number is divisible by 24?

- a. 37804
- b. 2015736
- c. 36718
- d. 53810

5. If the true discount on sum due 2 years hence at 14% per annum be Rs. 168, the sum due is

- a. Rs. 600
- b. Rs. 768
- c. Rs. 878
- d. Rs. 668

6. Find the speed of stream if a boat covers 36 km in downstream in 6 hours which is 3 hours less in covering the same distance in upstream?

- a. 1.5 kmph
- b. 1 kmph
- c. 0.75 kmph
- d. 0.5 kmph

7. How many rectangles can be drawn with 36 cm as the perimeter, given that the sides are positive integers in cm?

- a. 8
- b. 9
- c. 10
- d. 11

8. The ratio of efficiencies of two filling pipes is 4 : 5. There is a third emptying pipe which efficiency is two third of the average efficiency of first two filling pipes can empty a filled tank in 36 minutes. In how much time both the filling pipes can fill the tank when it is empty?

- a. 16 min
- b. 12 min
- c. 14 min
- d. 20 min

9. Which set represents a Pythagorean triple?

- a. 68, 72, 81
- b. 35, 38, 42
- c. 27, 38, 42
- d. 33, 44, 55

10. Agra and Delhi are 160 km apart. A train leaves Agra for Delhi and at the same time another train leaves Delhi for Agra. Both the trains meet 5 hrs after they start moving. If the train travelling from Agra to Delhi travels 6 km/hr faster than the other train, find the speed of the faster train?

- a. 19 kmph
- b. 13 kmph
- c. 7 kmph
- d. 9 kmph

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Answers and Solutions

Ans 1: c

Sol: From the given data,
when my age is 24, my mothers age is double of my age
=> 48 yrs is my mothers age
=> Difference is $48 - 24 = 24$ years.
When my age is 44
=> My mother is $44 + 24 = 68$ years aged.

Ans 2:b

Sol: We know that,
The area of a triangle with two sides given and included angle
 $A = \frac{1}{2} \times \text{product of sides} \times \sin(\text{angle})$
Here the two sides are 8 & 12

Angle = 150

Area = $\frac{1}{2} \times 8 \times 12 \times \sin 150$

$\sin(150) = \sin(90+60) = \cos(60) = \frac{1}{2}$

$A = 48 \times \frac{1}{2} = 24$

Area of the given triangle = 24 sq units.

Ans 3: c

Sol: Let the required number be 'p'.

From the given data,

$p + 12 = 160 \times \frac{1}{p}$

$\Rightarrow p + 12 = \frac{160}{p}$

$\Rightarrow p(p + 12) = 160$

$\Rightarrow p^2 + 12p - 160 = 0$

$\Rightarrow p^2 + 20p - 8p - 160 = 0$

$\Rightarrow p(p + 20) - 8(p + 20) = 0$

$\Rightarrow (p + 20)(p - 8) = 0$

$\Rightarrow p = -20$ or $p = 8$

As, given the number is a natural number, so it can't be negative.

Hence, the required number $p = 8$.

Ans 4: b

As we know that $24 = 3 \times 8$

So the number should be Divisible by 3 and 8

Now,

Divisibility rule 3 :

If the sum of the digits of a number is divisible by 3, then the number is divisible by 3.

Divisibility rule for 8 :

The last three digits of a number should be divisible by 8.

Hence, check for the given options,

A) 37804 \Rightarrow 804 is not divisible by 8.

C) 36718 \Rightarrow 718 is not divisible by 8.

D) 53810 \Rightarrow 810 is not divisible by 8.

B) 2015736 \Rightarrow 736 is divisible by 8 and sum $2 + 0 + 1 + 5 + 7 + 3 + 6 = 24$ which is divisible by 3.

Hence, 2015736 is divisible by 24.

Ans 5: b

Sol: We know that,

$P.W = \frac{100 \times T.D}{R \times T}$

$= \frac{100 \times 168}{14 \times 2}$

$P.W = 600$.

Now, required Sum = (P.W. + T.D.)

= Rs. (600 + 168)

= Rs. 768.

Ans 6: b

Sol: Speed of the boat upstream = $36/9 = 4$ kmph

Speed of the boat in downstream = $36/6 = 6$ kmph

Speed of stream = $6-4/2 = 1$ kmph

Answer 7: b

Sol:

Perimeter = 36

$$\Rightarrow 2(l + w) = 36$$

$$\Rightarrow l + w = 18$$

Since length and width are positive integers in centimeters.

Therefore, possible dimensions are :

(1, 17)cm , (2, 16) cm , (3, 15) cm, (4 , 14) cm, (5,13) cm, (6, 12) cm , (7, 11) cm, (8, 10) cm, (9, 9) cm.

Ans 8: b

Explanation:

Let the efficiencies of filling pipes is $4p$ and $5p$ respectively.

Efficiency of pipe which empty the tank = $2/3 \times 9p/2 = 3p$

Total work = $3p \times 36 = 108p$

Time to fill the tank by both the pipes = $108p/9p = 12$ min.

Ans 9: d

Sol:

A Pythagorean triple consists of three positive integers a , b , and c , such that $a^2 + b^2 = c^2$.

Here we know, that 3, 4, 5 are pythagorean triplets as $25 = 9 + 16$. Hence, its multiple will also be a pythagorean triple.

In the options given, $(3 \times 11, 4 \times 11, 5 \times 11) = 33, 44, 55$ is a Pythagorean triplet.

Ans 10: a

Sol:

Let the speed of the slower train = p kmph

ATQ,

Speed of the faster train = $(p + 6)$ kmph

Then,

$$(p + p + 6) \times 5 = 160$$

$$10p + 30 = 160$$

$$10p = 130$$

$$p = 13 \text{ kmph}$$

Then, speed of the faster train = $p + 6 = 13 + 6 = 19$ kmph.

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