

1. In covering a certain distance, the speeds of A and B are in the ratio of 3:4. A takes 30 minutes more than B to reach the destination. The time taken by A to reach the destination is?

A. 1 hour B. 1 1/2 hour C. 2 hour D. 2 1/2 hour

Answer: Option C

Explanation:

Ratio of speeds = 3:4

Ratio of times taken = 4:3

Suppose A takes $4x$ hrs and B takes $3x$ hrs to reach the destination.

Then, $4x - 3x = 30/60 \Rightarrow x = 1/2$

Time taken by A = $4x$ hrs = $4 * 1/2 = 2$ hrs.

2. A train 110 m long is running with a speed of 60 km/hr. In what time will it pass a man who is running at 6 km/hr in the direction opposite to that in which the train is going?

A. 5 sec B. 6 sec C. 7 sec D. 10 sec

Answer: Option B

Explanation:

Speed of train relative to man = $60 + 6 = 66$ km/hr.

= $66 * 5/18 = 55/3$ m/sec.

Time taken to pass the men = $110 * 3/55 = 6$ sec.

3. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400 C. Rs. 600 D. Rs. 800

Answer: Option B

Explanation:

C's 1 day's work = $1/3 - (1/6 + 1/8) = 1/3 - 7/24 = 1/24$

A's wages : B's wages : C's wages

$$1/6 : 1/8 : 1/24 = 4:3:1$$

$$\text{C's share} = 1/8 * 3200 = \text{Rs. } 400$$

4. A, B and C started a business with capitals of Rs. 8000, Rs. 10000 and Rs. 12000 respectively. At the end of the year, the profit share of B is Rs. 1500. The difference between the profit shares of A and C is?

A. Rs. 300 B. Rs. 400 C. Rs. 500 D. Rs. 600 E. None of these

Answer: Option D

Explanation:

Ratio of investments of A, B and C is 8000 : 10000 : 12000 = 4 : 5 : 6

And also given that, profit share of B is Rs. 1500

=> 5 parts out of 15 parts is Rs. 1500

Now, required difference is 6 - 4 = 2 parts

$$\text{Required difference} = 2/5 (1500) = \text{Rs. } 600$$

5. If Rs. 510 be divided among A, B, C in such a way that A gets 2/3 of what B gets and B gets 1/4 of what C gets, then their shares are respectively:

A. Rs. 120, Rs. 240, Rs. 150 B. Rs. 60, Rs. 90, Rs. 360 C. Rs. 150, Rs. 300, Rs. 60 D. None of these

Answer: Option B

Explanation:

$$(A = 2/3 B \text{ and } B = 1/4 C) = A/B = 2/3 \text{ and } B/C = 1/4$$

$$A:B = 2:3 \text{ and } B:C = 1:4 = 3:12$$

$$A:B:C = 2:3:12$$

$$\text{A's share} = 510 * 2/17 = \text{Rs. } 60$$

$$\text{B's share} = 510 * 3/17 = \text{Rs. } 90$$

$$\text{C's share} = 510 * 12/17 = \text{Rs. } 360.$$

6. The current of a stream runs at the rate of 4 kmph. A boat goes 6 km and back to the starting point in 2 hours, then find the speed of the boat in still water?

A. 10 kmph B. 21 kmph C. 8 kmph D. 12 kmph

Answer: Option C

Explanation:

$$S = 4$$

$$M = x$$

$$DS = x + 4$$

$$US = x - 4$$

$$6/(x + 4) + 6/(x - 4) = 2$$

$$x = 8$$

7. In how much time would the simple interest on a certain sum be 0.125 times the principal at 10% per annum?

A. 1 1/4 years B. 1 3/4 years C. 2 1/4 years D. 2 3/4 years

Answer: Option A

Explanation:

Let sum = x. Then, S.I. = 0.125x = 1/8 x, R = 10%

Time = $(100 * x) / (x * 8 * 10) = 5/4 = 1 \frac{1}{4}$ years.

8. Find the cost of fencing around a circular field of diameter 28 m at the rate of Rs.1.50 a meter?

A. Rs.150 B. Rs.132 C. Rs.100 D. Rs.125

Answer: Option B

Explanation:

$$2 * 22/7 * 14 = 88$$

$$88 * 1 \frac{1}{2} = \text{Rs.132}$$

9. A pupil's marks were wrongly entered as 83 instead of 63. Due to the average marks for the class got increased by half. The number of pupils in the class is:

A. 10 B. 20 C. 40 D. 73

Answer: Option C

Explanation:

Let there be x pupils in the class.

Total increase in marks = $(x * 1/2) = x/2$

$x/2 = (83 - 63) \Rightarrow x/2 = 20 \Rightarrow x = 40$.

10. The H.C.F of two numbers is 11 and their L.C.M is 7700. If one of the numbers is 275, then the other is:

A. 279 B. 283 C. 308 D. 318

Answer: Option C

Explanation:

Other number = $(11 * 7700)/275 = 308$.

11. If the sum of the two numbers is 22 and the sum of their squares is 404, then the product of the numbers is:

A. 40 B. 44 C. 80 D. 88

Answer: Option A

Explanation:

Let the numbers be x and y .

Then, $(x + y) = 22$ and $x^2 + y^2 = 404$

Now,

$2xy = (x + y)^2 - (x^2 + y^2)$

$2xy = 22^2 - 404 = 484 - 404 = 80$

$xy = 40$

12. Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes and 10 minutes respectively. When the tank is empty, all the three pipes are opened. A, B and C discharge chemical solutions P, Q and R respectively. What is the proportion of solution R in the liquid in the tank after 3 minutes?

A. 5/11 B. 6/11 C. 7/11 D. 8/11

Answer: Option B

Explanation:

Part filled by (A + B + C) in 3 minutes = $3(1/30 + 1/20 + 1/10) = 11/20$

Part filled by C in 3 minutes = $3/10$

Required ratio = $3/10 * 20/11 = 6/11$

13. The principal that amounts to Rs. 4913 in 3 years at $6\frac{1}{4}\%$ per annum C.I. compounded annually, is?

A. Rs. 3096 B. Rs. 4076 C. Rs. 4085 D. Rs. 4096

Answer: Option D

Explanation:

Principal = $[4913 / (1 + 25/(4 * 100))^3]$

= $4913 * 16/17 * 16/17 * 16/17 = \text{Rs. } 4096.$

14. If the height of a cone is increased by 100% then its volume is increased by?

A. 100% B. 200% C. 300% D. 400%

Answer: Option A

Explanation:

100%

15. Find the one which does not belong to that group ?

A. Walk B. Talk C. Drink D. Plank E. Lick

Answer: Option D

Explanation:

Walk, Talk, Drink and Lick are verbs, but not Plank.

16. A sells a bicycle to B at a profit of 20%. B sells it to C at a profit of 25%. If C pays Rs. 225 for it, the cost price of the bicycle for A is:

A. Rs. 110 B. Rs. 120 C. Rs. 125 D. Rs. 150

Answer: Option D

Explanation:

125% of 120% of A = 225

$125/100 * 120/100 * A = 225$

$A = 225 * 2/3 = 150.$

17. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?

A. 32 years B. 36 years C. 40 years D. 48 years

Answer: Option C

Explanation:

Let the mother's present age be x years. Then, the person's present age = $2/5 x$ years.

$(2/5 x + 8) = 1/2 (x + 8)$

$2(2x + 40) = 5(x + 8) \Rightarrow x = 40$

18. In an election between two candidates A and B, the number of valid votes received by A exceeds those received by B by 15% of the total number of votes polled. If 20% of the votes polled were invalid and a total of 8720 votes were polled, then how many valid votes did B get?

A. 2160 B. 2420 C. 2834 D. 3150 E. None of these

Answer: Option C

Explanation:

Let the total number of votes polled in the election be 100k.

Number of valid votes = $100k - 20\% (100k) = 80k$

Let the number of votes polled in favour of A and B be a and b respectively.

$$a - b = 15\% (100k) \Rightarrow a = b + 15k$$

$$\Rightarrow a + b = b + 15k + b$$

$$\text{Now, } 2b + 15k = 80k \text{ and hence } b = 32.5k$$

It is given that $100k = 8720$

$$32.5k = 32.5k/100k * 8720 = 2834$$

The number of valid votes polled in favour of B is 2834.

19. The cost of 16 pens and 8 pencils is Rs.352 and the cost of 4 pens and 4 pencils is Rs.96. Find the cost of each pen?

A. Rs.32 B. Rs.28 C. Rs.36 D. Rs.25 E. None of these

Answer: Option E

Explanation:

Let the cost of each pen and pencil be 'p' and 'q' respectively.

$$16p + 8q = 352 \text{ --- (1)}$$

$$4p + 4q = 96$$

$$8p + 8q = 192 \text{ --- (2)}$$

$$(1) - (2) \Rightarrow 8p = 160$$

$$\Rightarrow p = 20$$

$$20. \text{ I. } a^2 + 11a + 30 = 0,$$

II. $b^2 + 6b + 5 = 0$ to solve both the equations to find the values of a and b?

A. If $a < b$ B. If $a = b$ C. If the relationship between a and b cannot be established D. If $a > b$ E. If $a = b$

Answer: Option B

Explanation:

$$\text{I. } (a + 6)(a + 5) = 0$$

$$\Rightarrow a = -6, -5$$

$$\text{II. } (b + 5)(b + 1) = 0$$

$$\Rightarrow b = -5, -1 \Rightarrow a = b$$

21. 32% of 425 - $?\%$ of 250 = 36

A. 20 B. 40 C. 60 D. 80 E. 70

Answer: Option B

Explanation:

$$32/100 * 425 - x/100 * 250 = 36$$

$$\Rightarrow x/100 * 250 = 136 - 36 = 100$$

$$\Rightarrow x = (100 * 100)/250 = 40$$

22. The radius of a wheel is 22.4 cm. What is the distance covered by the wheel in making 500 resolutions.

A. 252 m B. 704 m C. 352 m D. 808 m E. None of these

Answer: Option B

Explanation:

In one resolution, the distance covered by the wheel is its own circumference. Distance covered in 500 resolutions.

$$= 500 * 2 * 22/7 * 22.4 = 70400 \text{ cm} = 704 \text{ m}$$