

Online Aptitude Test :: Aptitude Test 4

Marks : 15/20

Total number of questions	:	20
Number of answered questions	:	20
Number of unanswered questions	:	0

Test Review : View answers and explanation for this test.

1. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has missed 27 times, A has killed:

- ☒ A. 30 birds ✓
- ☐ B. 60 birds ✗
- ☐ C. 72 birds ✗
- ☐ D. 90 birds ✗

Your Answer: Option A

Correct Answer: Option A

Explanation:

Let the total number of shots be x . Then,



Killing shots by A = $\frac{1}{3}$ of $\frac{5}{8}x = \frac{5}{24}x$

Shots missed by B = $\frac{1}{2}$ of $\frac{3}{8}x = \frac{3}{16}x$

$$\therefore \frac{3x}{16} = 27 \text{ or } x = \left(\frac{27 \times 16}{3} \right) = 144.$$

$$\text{Birds killed by A} = \frac{5x}{24} = \left(\frac{5}{24} \times 144 \right) = 30.$$

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2. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?

- ☒ A. 16 years ✓
☐ B. 18 years ✗
☐ C. 20 years ✗
☐ D. Cannot be determined ✗
☐ E. None of these ✗

Your Answer: Option A

Correct Answer: Option A

Explanation:

Let the ages of Kunal and Sagar 6 years ago be $6x$ and $5x$ years respectively.

$$\text{Then, } \frac{(6x + 6) + 4}{(5x + 6) + 4} = \frac{11}{10}$$

$$\Rightarrow 10(6x + 10) = 11(5x + 10)$$

$$\Rightarrow 5x = 10$$

$$\Rightarrow x = 2.$$

$$\therefore \text{Sagar's present age} = (5x + 6) = 16 \text{ years.}$$

Learn more problems on : [Problems on Ages](#)

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3. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

- ☐ A. 1 year ✗
☐ B. 2 years ✗
☒ C. 25 years ✗
☐ D. Data inadequate ✓
☐ E. None of these ✗

✓ Your Answer: Option C



Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.
2. Sum of age of R and T is 50 i.e. $(R + T) = 50$.

Question: $R - Q = ?$.

Explanation:

$$R - Q = Q - T$$

$$(R + T) = 2Q$$

Now given that, $(R + T) = 50$

So, $50 = 2Q$ and therefore $Q = 25$.

Question is $(R - Q) = ?$

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, $(R - Q)$ cannot be determined.

Learn more problems on : [Problems on Ages](#)

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4.
$$\frac{1}{1 + x^{(b-a)} + x^{(c-a)}} + \frac{1}{1 + x^{(a-b)} + x^{(c-b)}} + \frac{1}{1 + x^{(b-c)} + x^{(a-c)}} = ?$$

- ☐ A. 0 ✖
- ☐ B. 1 ✔
- ☒ C. x^{a-b-c} ✖
- ☐ D. None of these ✖

Your Answer: Option C

Correct Answer: Option B

Explanation:

$$\begin{aligned} \text{Given Exp.} &= \left(\frac{1}{1 + \frac{x^b}{x^a} + \frac{x^c}{x^a}} \right) + \left(\frac{1}{1 + \frac{x^a}{x^b} + \frac{x^c}{x^b}} \right) + \left(\frac{1}{1 + \frac{x^b}{x^c} + \frac{x^a}{x^c}} \right) \\ &= \frac{x^a}{(x^a + x^b + x^c)} + \frac{x^b}{(x^a + x^b + x^c)} + \frac{x^c}{(x^a + x^b + x^c)} \\ &= \frac{(x^a + x^b + x^c)}{(x^a + x^b + x^c)} \\ &= 1. \end{aligned}$$



5. $\frac{1}{1+a^{(n-m)}} + \frac{1}{1+a^{(m-n)}} = ?$

- ☐ A. 0 ✖
- ☐ B. $\frac{1}{2}$ ✖
- ☒ C. 1 ✔
- ☐ D. a^{m+n} ✖

Your Answer: Option C

Correct Answer: Option C

Explanation:

$$\begin{aligned} \frac{1}{1+a^{(n-m)}} + \frac{1}{1+a^{(m-n)}} &= \frac{1}{1+\frac{a^n}{a^m}} + \frac{1}{1+\frac{a^m}{a^n}} \\ &= \frac{a^m}{a^m+a^n} + \frac{a^n}{a^m+a^n} \\ &= \frac{(a^m+a^n)}{(a^m+a^n)} \\ &= 1. \end{aligned}$$

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6. Simran started a software business by investing Rs. 50,000. After six months, Nanda joined her with a capital of Rs. 80,000. After 3 years, they earned a profit of Rs. 24,500. What was Simran's share in the profit?

- ☐ A. Rs. 9,423 ✖
- ☐ B. Rs. 10,250 ✖
- ☐ C. Rs. 12,500 ✖
- ☒ D. Rs. 10,500 ✔

Your Answer: Option D

Correct Answer: Option D

Explanation:

Simran : Nanda = $(50000 \times 36) : (80000 \times 30) = 3 : 4$.

$$\therefore \text{Simran's share} = \text{Rs.} \left(24500 \times \frac{3}{7} \right) = \text{Rs. } 10,500.$$

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7. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he



Your Answer: Option B

Correct Answer: Option B

Explanation:

$$\text{A's 2 day's work} = \left(\frac{1}{20} \times 2 \right) = \frac{1}{10}$$

$$(\text{A} + \text{B} + \text{C})\text{'s 1 day's work} = \left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60} \right) = \frac{6}{60} = \frac{1}{10}$$

$$\text{Work done in 3 days} = \left(\frac{1}{10} + \frac{1}{10} \right) = \frac{1}{5}$$

Now, $\frac{1}{5}$ work is done in 3 days.

∴ Whole work will be done in $(3 \times 5) = 15$ days.

Learn more problems on : [Time and Work](#)

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8. Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?

- ☐ A. 8 kmph ✗
- ☐ B. 11 kmph ✗
- ☒ C. 12 kmph ✔
- ☐ D. 14 kmph ✗

Your Answer: Option C

Correct Answer: Option C

Explanation:

Let the distance travelled by x km.

$$\text{Then, } \frac{x}{10} - \frac{x}{15} = 2$$

$$\Rightarrow 3x - 2x = 60$$

$$\Rightarrow x = 60 \text{ km.}$$

$$\text{Time taken to travel 60 km at 10 km/hr} = \left(\frac{60}{10} \right)_{\text{hrs}} = 6 \text{ hrs.}$$

So, Robert started 6 hours before 2 P.M. i.e., at 8 A.M.

$$\therefore \text{Required speed} = \left(\frac{60}{5} \right)_{\text{kmph}} = 12 \text{ kmph.}$$

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- ☒ A. 1 km/hr
☐ B. 1.5 km/hr ✖
☐ C. 2 km/hr ✖
☐ D. 2.5 km/hr ✖

Your Answer: Option A

Correct Answer: Option A

Explanation:

Suppose he move 4 km downstream in x hours. Then,

$$\text{Speed downstream} = \left(\frac{4}{x}\right) \text{ km/hr.}$$

$$\text{Speed upstream} = \left(\frac{3}{x}\right) \text{ km/hr.}$$

$$\therefore \frac{48}{(4/x)} + \frac{48}{(3/x)} = 14 \text{ or } x = \frac{1}{2}.$$

So, Speed downstream = 8 km/hr, Speed upstream = 6 km/hr.

$$\text{Rate of the stream} = \frac{1}{2}(8 - 6) \text{ km/hr} = 1 \text{ km/hr.}$$

Learn more problems on : [Boats and Streams](#)

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10. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50/kg?

- ☒ A. 3 : 7 ✖
☐ B. 5 : 7 ✖
☐ C. 7 : 3 ✔
☐ D. 7 : 5 ✖

Your Answer: Option A

Correct Answer: Option C

Explanation:

By the rule of alligation:

Cost of 1 kg pulses of 1 st kind	Mean Price	Cost of 1 kg pulses of 2 nd kind
Rs. 15		Rs. 20
3.50	Rs. 16.50	1.50

$$\therefore \text{Required rate} = 3.50 : 1.50 = 7 : 3.$$

Learn more problems on : [Alligation or Mixture](#)

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- ☐ B. $a - b = 1$
- ☐ C. $a = b$ ✖
- ☐ D. $a^2 - b^2 = 1$ ✖

Your Answer: Option A

Correct Answer: Option A

Explanation:

$$\log_b^a + \log_a^b = \log(a + b)$$

$$\Rightarrow \log(a + b) = \log\left(\frac{a}{b} \times \frac{b}{a}\right) = \log 1.$$

So, $a + b = 1$.

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12. In a race of 200 m, A can beat B by 31 m and C by 18 m. In a race of 350 m, C will beat B by:

- ☐ A. 22.75 m ✖
- ☒ B. 25 m ✔
- ☐ C. 19.5 m ✖
- ☐ D. $7\frac{4}{7}$ m ✖

Your Answer: Option B

Correct Answer: Option B

Explanation:

$$A : B = 200 : 169.$$

$$A : C = 200 : 182.$$

$$\frac{C}{B} = \left(\frac{C}{A} \times \frac{A}{B}\right) = \left(\frac{182}{200} \times \frac{200}{169}\right) = 182 : 169.$$

When C covers 182 m, B covers 169 m.

$$\text{When C covers 350 m, B covers } \left(\frac{169}{182} \times 350\right) \text{ m} = 325 \text{ m.}$$

Therefore, C beats B by $(350 - 325) \text{ m} = 25 \text{ m}$.

Learn more problems on : [Races and Games](#)

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13. If 6th March, 2005 is Monday, what was the day of the week on 6th March, 2004?

- ☒ A. Sunday ✔



Correct Answer: Option A

Explanation:

The year 2004 is a leap year. So, it has 2 odd days.

But, Feb 2004 not included because we are calculating from March 2004 to March 2005. So it has 1 odd day only.

∴ The day on 6th March, 2005 will be 1 day beyond the day on 6th March, 2004.

Given that, 6th March, 2005 is Monday.

∴ 6th March, 2004 is Sunday (1 day before to 6th March, 2005).

Learn more problems on : [Calendar](#)

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14. An accurate clock shows 8 o'clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

- ☐ A. 144° ✗
☐ B. 150° ✗
☐ C. 168° ✗
☒ D. 180° ✔

Your Answer: Option D

Correct Answer: Option D

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^\circ = 180^\circ$.

Learn more problems on : [Clock](#)

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15. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

- ☐ A. 145° ✗
☐ B. 150° ✗
☒ C. 155° ✔
☐ D. 160° ✗

Your Answer: Option C

Correct Answer: Option C

Explanation:

Angle traced by hour hand in 12 hrs = 360°.

✓ Angle traced by hour hand in 5 hrs 10 min. i.e., $\frac{31}{6}$ hrs = $\left(\frac{360}{12} \times \frac{31}{6}\right)^\circ = 155^\circ$.



16. The market value of a 10.5% stock, in which an income of Rs. 756 is derived by investing Rs. 9000, brokerage being $\frac{1}{4}\%$, is:

- ☐ A. Rs. 108.25 ✖
☐ B. Rs. 112.20 ✖
☒ C. Rs. 124.75 ✔
☐ D. Rs. 125.25 ✖

Your Answer: Option C

Correct Answer: Option C

Explanation:

For an income of Rs. 756, investment = Rs. 9000.

For an income of Rs. $\frac{21}{2}$, investment = Rs. $\left(\frac{9000 \times 21}{756 \times 2} \right)$ = Rs. 125.

∴ For a Rs. 100 stock, investment = Rs. 125.

Market value of Rs. 100 stock = Rs. $\left(125 - \frac{1}{4} \right)$ = Rs. 124.75

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17. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

- ☐ A. $\frac{1}{15}$ ✖
☐ B. $\frac{25}{57}$ ✖
☒ C. $\frac{35}{256}$ ✖
☐ D. $\frac{1}{221}$ ✔

Your Answer: Option C

Correct Answer: Option D

Explanation:

Let S be the sample space.

Then, $n(S) = {}^{52}C_2 = \frac{(52 \times 51)}{(2 \times 1)} = 1326$.

Let E = event of getting 2 kings out of 4.

∴ $n(E) = {}^4C_2 = \frac{(4 \times 3)}{(2 \times 1)} = 6$.

∴ $P(E) = \frac{n(E)}{n(S)} = \frac{6}{1326} = \frac{1}{221}$



18. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

- ☐ A. $\frac{1}{13}$ ✖
- ☒ B. $\frac{3}{13}$ ✔
- ☐ C. $\frac{1}{4}$ ✖
- ☐ D. $\frac{9}{52}$ ✖

Your Answer: Option B

Correct Answer: Option B

Explanation:

Clearly, there are 52 cards, out of which there are 12 face cards.

$$\therefore P(\text{getting a face card}) = \frac{12}{52} = \frac{3}{13}.$$

Learn more problems on : [Probability](#)

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19. The true discount on Rs. 2562 due 4 months hence is Rs. 122. The rate percent is:

- ☐ A. 12% ✖
- ☐ B. $13\frac{1}{3}\%$ ✖
- ☒ C. 15% ✔
- ☐ D. 14% ✖

Your Answer: Option C

Correct Answer: Option C

Explanation:

$$P.W. = \text{Rs. } (2562 - 122) = \text{Rs. } 2440.$$

\therefore S.I. on Rs. 2440 for 4 months is Rs. 122.

$$\therefore \text{Rate} = \left[\frac{100 \times 122}{2440 \times \frac{1}{3}} \right] \% = 15\%.$$

Learn more problems on : [True Discount](#)

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Direction (for Q.No. 20):

Find out the wrong number in the given sequence of numbers.

20. ✓ 22, 33, 66, 99, 121, 279, 594

- ☐ A. 22 ✖



Your Answer: Option C

Correct Answer: Option C

Explanation:

Each of the number except 279 is a multiple of 11.

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