# 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 $\frac{3}{8}x = \frac{3}{16}x$

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

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.

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

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

$\Rightarrow 5x = 10$

$\Rightarrow x = 2.$

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

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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:

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.

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:

$$\frac{1}{1 + a^{(n-m)}} + \frac{1}{1 + a^{(m-n)}} = \left(\frac{1}{1 + \frac{a^n}{a^m}}\right) + \left(\frac{1}{1 + \frac{a^m}{a^n}}\right)$$

$$= \frac{a^m}{(a^m + a^n)} + \frac{a^n}{(a^m + a^n)}$$

$$= \frac{(a^m + a^n)}{(a^m + a^n)}$$

$= 1.$

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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 x 36) : (80000 x 30) = 3 : 4.

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

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

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

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.

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

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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.

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

$\Rightarrow 3x - 2x = 60$

$\Rightarrow x = 60$ km.

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

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

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

Learn more problems on : Time and Distance

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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,

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

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

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

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

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

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

$\therefore$ 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.

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

Therefore, C beats B by (350 - 325) m = 25 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 $6^{th}$ March, 2005 will be 1 day beyond the day on $6^{th}$ March, 2004.

Given that, $6^{th}$ March, 2005 is Monday.

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

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14. An accurate clock shows 8 o'clock in the morning. Through how may 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 $= \left(\frac{360}{12} \times 6\right)° = 180°$.

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 $= \left(\frac{360}{12} \times \frac{31}{6}\right)° = 155°$.

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. $\left(\frac{9000}{756} \times \frac{21}{2}\right)$ = Rs. 125.

$\therefore$ For a Rs. 100 stock, investment = Rs. 125.

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

Learn more problems on : Stocks and Shares

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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.

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

$\therefore$ $P(E) = \frac{n(E)}{} = \frac{6}{} = \frac{1}{}$

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 (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. = Rs. (2562 - 122) = Rs. 2440.

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

$\therefore$ 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. 33

Your Answer: Option C

Correct Answer: Option C

Explanation:

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

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