

## Examrace

# Aptitude Logical Reasoning Time and Work 2020 Competitive Exams Part 3

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1. A can do half the work in one day where as B can do it full. B can also do half the work of C in one day. Ratio in their efficiency will be?

- A. 4 : 2 : 1
- B. 2 : 4 : 1
- C. 2 : 1 : 4
- D. 1 : 2 : 4

Ans: D

Explanation:

$$\text{WC of } A : B = 1 : 2$$

$$B : C = 1 : 2$$

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$$A : B : C = 1 : 2 : 4$$

2. A can do a piece of work in 12 days. He worked for 15 days and then B completed the remaining work in 10 days. Both of them together will finish it in.

- A.  $12\frac{1}{2}$  days
- B. 25 days
- C. 6 days
- D. 12 days

Ans: A

Explanation:

$$\frac{15}{25} + \frac{10}{x} = 1 \quad x = 25$$

$$\frac{1}{25} + \frac{1}{25} = \frac{2}{25}$$

$$\frac{25}{2} = 12\frac{1}{2}$$

3. A can do a half of certain work in 70 days and B one third of the same in 35 days. They together will do the whole work in.

- A. 420 days
- B. 120 days
- C. 105 days
- D. 60 days

Ans: D

Explanation:

A = 140 days

B = 105 days

$$\frac{1}{140} + \frac{1}{105} = \frac{7}{420} = \frac{1}{60}$$

=> 60 days

4. If 3 workers collect 48 kg of cotton in 4 days, how many kg of cotton will 9 workers collect in 2 days?

- A. 216
- B. 108
- C. 72
- D. 36

Ans: C

Explanation:

$$\frac{3 \times 4}{48} = \frac{9 \times 2}{x}$$

$$x = 72kg$$

5. Anita, Indu and Geeta can do a piece of work in 18 days, 27 days and 36 days respectively. They start working together. After working for 4 days. Anita goes away and Indu leaves 7 days before the work is finished. Only Geeta remains at work from beginning to end. In how many days was the whole work done?

- A. 16 days

B. 17 days

C. 18 days

D. 19 days

Ans: A

Explanation:

$$\frac{4}{18} + \frac{x-7}{27} + \frac{x}{36} = 1$$

$x = 16$  days

6. A, B and C completed a piece of work, A worked for 6 days, B for 9 days and C for 4 days. Their daily wages were in the ratio of 3 : 4 : 5 . Find the daily wages of C, if their total earning was Rs.1480?

A. Rs.80

B. Rs.75

C. Rs.100

D. Rs.90

Ans: C

Explanation:

$$\begin{array}{ccc} 3x & 4x & 5x \\ 6 & 9 & 4 \end{array}$$

$$18x + 36x + 20x = 1480$$

$$74x = 1480 \Rightarrow x = 20$$

$5x = 100$  Rs.

7. 15 men take 21 days of 8 hours each to do a piece of work. How many days of 6 hours each would 21 women take to do the same. If 3 women do as much work as 2 men?

A. 10

B. 20

C. 30

D. 40

Ans: C

Explanation:

$$3W = 2M$$

$$15M \text{ --- } 21 \times 8 \text{ hours}$$

$$21W \text{ --- } x \times 6 \text{ hours}$$

$$14M \text{ --- } x \times 6$$

$$15 \times 21 \times 8 = 14 \times x \times 6$$

$$x = 30$$

8. Some persons can do a piece of work in 12 days. Two times the number of these people will do half of that work in?

- A. 3 days
- B. 4 days
- C. 6 days
- D. 12 days

Ans: A

Explanation:

$$\frac{12}{2 \times 2} = 3 \text{ days}$$

9. If 12 men and 16 boys can do a piece of work in 5 days and 13 men together will 24 boys can do it in 4 days. Compare the daily work done by a man with that of a boy.

- A. 4 : 3
- B. 2 : 1
- C. 1 : 2
- D. 2 : 5

Ans: B

Explanation:

$$12M + 16B \text{ --- } 5 \text{ days}$$

$$13M + 24B \text{ --- } 4 \text{ days}$$

$$60M + 80B = 52M + 96B$$

$$8M = 16B \Rightarrow 1M = 2B$$

$$M : B = 2 : 1$$

10. Two pipes X and Y can separately fill a cistern in 18 and 24 hours respectively. If they are turned on alternately for one hour each, how long will it take to fill the cistern?

- A. 20 hours 30 min
- B. 24 hours
- C. 18 hours 30 min
- D. 16 hours

Ans: A

Explanation:

$$\frac{1}{18} + \frac{1}{24} = \frac{7}{72}$$

$$\frac{72}{7} = 10\frac{2}{7}$$

$$\frac{7}{72} \times 10 = \frac{35}{36} \text{ --- 20 hours}$$

$$WR = 1 - \frac{35}{36} = \frac{1}{36}$$

$$1 \text{ h --- } \frac{1}{18}$$

$$? \text{ --- } \frac{1}{36} = \frac{1}{2} \text{ hours}$$

$$\Rightarrow 20\frac{1}{2} \text{ hours}$$

11. A and B can do a work in 5 days and 10 days respectively. A starts the work and B joins him after 2 days. In how many days can they complete the remaining work?

- A. 1 day
- B. 2 days
- C. 3 days
- D. 4 days

Ans: B

Explanation:

$$\text{Work done by A in 2 days} = \frac{2}{5}$$

$$\text{Remaining work} = \frac{3}{5}$$

$$\text{Work done by both A and B in one day} = \frac{1}{5} + \frac{1}{10} = \frac{3}{10}$$

$$\text{Remaining work} = \frac{3}{5} \times \frac{10}{3} = 2 \text{ days.}$$

12. A, B and C can do a work in 6 days, 8 days and 12 days respectively. In how many days can all three of them working together, complete the work?

A.  $2\frac{2}{3}$  days

B.  $4\frac{2}{3}$  days

C.  $1\frac{2}{3}$  days

D.  $2\frac{1}{3}$  days

Ans: A

Explanation:

$$\text{Work done by all three of them in one day} = \frac{1}{6} + \frac{1}{8} + \frac{1}{12} = \frac{3}{8}.$$

$$\text{The number of days required} = \frac{8}{3} = 2\frac{2}{3} \text{ days.}$$

13. A and B can do a work in 12 days, B and C in 30 days and C and A in 36 days. In how many days will the work be completed, if all three of them work together?

A.  $\frac{160}{11}$  days

B.  $\frac{125}{14}$  days

C.  $\frac{180}{13}$  days

D.  $\frac{120}{11}$  days

Ans: C

Explanation:

$$\text{One day work of A and B} = \frac{1}{12}$$

$$\text{One day work of B and C} = \frac{1}{30}$$

$$\text{One day work of C and A} = \frac{1}{36}$$

$$2(A + B + C) = \frac{1}{12} + \frac{1}{30} + \frac{1}{36}$$

$$2(A + B + C) = \frac{13}{90}$$

$$(A + B + C) = \frac{13}{180}$$

Number of days required =  $\frac{180}{13}$  days.

14. A, B and C can do a piece of work in 24 days, 30 days and 40 days respectively. They began the work together but C left 4 days before the completion of the work. In how many days was the work completed?

A. 5 days

B. 4 days

C. 7 days

D. 11 days

Ans: D

Explanation:

One day work of A, B and C =  $\frac{1}{24} + \frac{1}{30} + \frac{1}{40} = \frac{1}{10}$  Work done by A and B together in the last 4 days =  $4 \times \left(\frac{1}{24} + \frac{1}{30}\right) = \frac{3}{10}$

Remaining work =  $\frac{7}{10}$

The number of days required for this initial work = 7 days.

The total number of days required =  $4 + 7 = 11$  days.

15. P is three times as fast as Q and working together, they can complete a work in 12 days. In how many days can Q alone complete the work?

A. 16 days

B. 20 days

C. 17 days

D. 12 days

Ans: A

Explanation:

$$P = 3Q$$

$$P + Q = 3Q + Q = 4Q$$

These 4Q people can do the work in 12 days, which means Q can do the work in 48 days.

Hence, P can do the work in 16 days.

16. If 5 men and 2 boys working together, can do four times as much work per hour as a man and a boy together. Find the ratio of the work done by a man and that of a boy for a given

time?

A. 1 : 3

B. 3 : 1

C. 1 : 2

D. 2 : 1

Ans: D

Explanation:

$$5M + 2B = 4(1M + 1B)$$

$$5M + 2B = 4M + 4B$$

$$1M = 2B$$

The required ratio of work done by a man and a boy = 2 : 1

17. 30 men can do a work in 40 days. When should 20 men leave the work so that the entire work is completed in 40 days after they leave the work?

A. 5 days

B. 10 days

C. 15 days

D. 20 days

Ans: B

Explanation:

$$\text{Total work to be done} = 30 \times 40 = 1200$$

Let 20 men leave the work after 'P' days, so that the remaining work is completed in 40 days after they leave the work.

$$40P + (20 \times 40) = 1200$$

$$40P = 400 \Rightarrow P = 10 \text{ days}$$

18. A and B can do a work in 4 hours and 12 hours respectively. A starts the work at 6AM and they work alternately for one hour each. When will the work be completed?

A. 4 days

B. 7 days

C. 5 days

D. 6 days

Ans: D

Explanation:

Work done by A and B in the first two hours, working alternately

$$= \text{First hour A} + \text{Second hour B} = \frac{1}{4} + \frac{1}{12} = \frac{1}{3} .$$

Total time required to complete the work =  $2 \times 3 = 6$  days.

19. A can do a work in 9 days and B can do the same work in 18 days. If they work together, in how many days will they complete the work?

A. 8

B. 7

C. 6

D. 5

E. None of these.

Ans: C

Explanation:

One day's work of A and B =  $\frac{1}{9} + \frac{1}{18} = \frac{2+1}{18} = \frac{1}{6}$  So, the time taken to complete the work is 6 days.

20. A, B and C can do a work in 90, 30 and 45 days respectively. If they work together, in how many days will they complete the work?

A. 15

B. 10

C. 20

D. 25

E. None of these

Ans: A

Explanation:

One day's work of A, B and C =  $\frac{1}{90} + \frac{1}{30} + \frac{1}{45}$

$$= \frac{1 + 3 + 2}{90} = \frac{1}{15}$$

A, B and C together can do the work in 15 days.

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