Time and work Questions for CDS, CLAT & SSC Exams.

Time and work Quiz 7

Directions: Study the following Questions carefully and choose the right answer:

1. A is twice as good as B and together they finish a piece of work in 16 days. The number of days taken by A alone to finish the work is

A. 20 days B. 21 days C. 22 days D. 24 days

2. 15 men take 20 days to complete a job working 8 hours a day. The number of hours a day should 20 men take to complete the job in 12 days

A. 5 hours B. 10 hours C. 15 hours D. 18 hours

3. Raj and Ram working together do a piece of work in 10 days. Raj alone can do it in 12 days. Ram alone will do the work in

A. 20 days B. 40 days C. 50 days D. 60 days

4. A can do a piece of work in 20 days and B in 30 days. They work together for 7 days and then both leave the work. Then C alone finishes the remaining work in 10 days. In how many days will C finish the full work ?

A. 25 days B. 30 days C. 24 days D. 27 days

5. A, B and C can do a job in 6 days, 12 days and 15 days respectively. After 1/8 of the work is completed, C leaves the job. Rest of the work is done by A and B together. Time taken to finish the work is

A. $5\frac{5}{6}$ days B. $5\frac{1}{4}$ days C. $3\frac{1}{2}$ days D. $5\frac{3}{4}$ days

6. A man is twice as fast as a woman and a woman is twice as fast as a boy in doing a work. If all of them, a man, a woman and a boy can finish the work in 7 days, in how many days a boy will do it alone ?

A. 49 B. 7 C. 6 D. 42

7. If x men can do a piece of work in x days, then the number of days in which y men can do the same work is

A. xy days B. $\frac{y^2}{x}$ days C. $\frac{x^2}{y}$ days D. x^2y days

8. A farmer can plough a field working 6 hours per day in 18 days. The worker has to work how many hours per day to finish the same work in 12 days ?

A. 7 hours B. 9 hours C. 11 hours D. 13 hours

9. Niti and Diti can do a piece of work in 45 days and 40 days respectively. They began to work together but Niti leaves after 'x' days and Diti finished the rest of the work in (x + 14) days. After how many days did Niti leave?

A. 9 B. 12 C. 11 D. 13

10. Tapsee and Pannu are great masons and they working alone can build a wall in 10 and 15 days respectively. Katappa is a labourer and he can demolish the same kind of wall in 4 days. If they all start working together, how many days will the wall be either built or demolished completely?

A. The wall will be built in 12 days.
B. The wall will be demolished in 12 days.
C. The wall will be built in 12/5 days.
D. The wall will be demolished in 12/5 days.

Correct Answers:

1	2	3	4	5	6	7	8	9	10
D	B	D	C	C	A	C	B	A	B

Explanations:

1. Let's assume B takes 2x days

∴ A will take x days. Applying the shortcut approach,

Total time taken by A & B

$= \frac{xy}{x + y}$

Where, x is the time taken by A alone And y is the total time taken by B alone

$= \frac{x \times 2x}{3x} = 16$

∴ x = 24 days

Hence, option D is correct.

2. $M_1D_1T_1 = M_2D_2T_2$

$\Rightarrow 15 \times 20 \times 8 = 20 \times 12 \times T_2$

$\Rightarrow T_2 = \frac{15 \times 20 \times 8}{20 \times 12} = 10$ hours

Hence, option B is correct.

3. To solve this question, we can apply a short trick approach :

If A and B together can do a piece of work in x day and A alone can do it in y days, then B alone can do the work in

$\frac{xy}{y - x}$ days.

Given,

Time taken by Raj and Ram together to finish a piece of work = x = 10 days.

Time taken by Raj alone to finish the same piece of work = y = 12 days

By the short trick approach:

Ram alone can do the whole work in

$\frac{10 \times 12}{12 - 10} = \frac{120}{2} = 60$ days

Hence, option D is correct.

4. Work done by A and B in 7 days

$= \frac{7}{20} + \frac{7}{30} = \frac{7}{12}$

So, remaining work

$= 1 - \frac{7}{12} = \frac{5}{12}$

Now, $\frac{5}{12}$ work done by C in 10 days.

∴ Time taken by C to finish the full work

$= 10 \times \frac{12}{5} = 24$ days

Hence, option C is correct.

5. Remaining work

$= 1 - \frac{1}{8} = \frac{7}{8}$

Work done by A and B in one day

$= \frac{1}{6} + \frac{1}{12} = \frac{1}{4}$

∴ Time taken by A & and to finish 7/8 part of work

$= \frac{7}{8} \times 4 = \frac{7}{2} = 3\frac{1}{2}$ days

Hence, option C is correct.

6. According to the question,

1 man ≡ 2 women ≡ 4 boys

∴ 1 man + 1 woman + 1 boys = (4 + 2 + 1) boys = 7 boys

∴ $M_1D_1 = M_2D_2$

⇒ $7 \times 7 = 1 \times D_2$

⇒ $D_2 = 49$ days

Hence, option A is correct.

7. $M_1D_1 = M_2D_2$

$\Rightarrow x \times x = y \times D_2$

$\Rightarrow D_2 = \frac{x^2}{y}$ days

Hence, option C is correct.

8. $D_1T_1 = D_2T_2$

$\Rightarrow 18 \times 6 = 12 \times T_2$

$\Rightarrow T_2 = \frac{18 \times 6}{12} = 9$ hours

Hence, option B is correct.

9. As per the given information,

Niti's x days' efficiency + Diti's {x + (x + 14)} days' efficiency = 1

$\Rightarrow \frac{x}{45} + \frac{x + x + 14}{40} = 1$

$\Rightarrow \frac{8x + 9(2x + 14)}{360} = 1$

$\Rightarrow 8x + 18x + 126 = 360 \Rightarrow 26x = 234$

$\therefore x = \frac{234}{26} = 9$ days

Hence, option A is correct.

10. As per the given information, individual efficiency of both Tapsee and Pannu has to be positive and that of Katappa negative.

Therefore, work done by all working together

$= \frac{1}{10} + \frac{1}{15} - \frac{1}{4} = -\frac{1}{12}$

Clearly, the wall will be demolished in 12 days.

Option B is hence the correct answer.

Hence, option B is correct.