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

### Time and work Quiz 8

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

**1. 30 men can complete a piece of work in 15 days. In how many days will 25 men complete the same piece of work?**

- A. 12 days                      B. 18 days                      C. 22 days                      D. 24 days

**2. 12 boys, working 3 hours a day can complete a work in 20 days. How many hours a day must 18 boys work to complete the same work in 10 days?**

- A. 4 hrs                      B. 18 hrs                      C. 10 hrs                      D. 12 hrs

**3. If 8 boys or 12 girls can do a piece of work in 28 days, then in how many days will 4 boys and 8 girls do the same work?**

- A. 12                      B. 24                      C. 28                      D. 32

**4. 20 labourers, working 7 hours a day can finish a piece of work in 30 days. If the labourers work 5 hours a day, then the number of labourers to finish the same piece of work in 40 days, will be :**

- A. 15                      B. 21                      C. 22                      D. 25

**5. If 25 pumps can raise 2500 tonnes of water in 20 days, working 5 hours a day; in how many days will 20 pumps raise 1200 tonnes of water, working 8 hours a day?**

- A. 6 days                      B.  $\frac{3}{2}$  days                      C.  $\frac{15}{2}$  days                      D.  $\frac{7}{2}$  days

**6. If 8 carpenters, working 5 hours a day, can make 350 chairs in 24 days. How many chairs will 12 carpenters make in 36 days, each working 8 hours a day?**

- A. 1260                      B. 1320                      C. 920                      D. 1380

**7. 30 men can produce 1500 units in 24 days working 6 hours a day. In how many days, can 18 men produce 1800 units working 8 hours a day?**

- A. 18 days                      B. 32 days                      C. 36 days                      D. 45 days

**8. 3 men or 5 women can do a work in 12 days. How long will 6 men and 5 women take to finish the work?**

A. 4 days

B. 5 days

C. 6 days

D. 7 days

**9. If 9 engines consume 24 metric tons of coal, when each is working 8 hours a day, how much coal will be required for 8 engines, each running 13 hours a day, it being given that 3 engines of former type consume as much as 4 engines of latter type?**

A. 23 metric tons

B. 24 metric tons

C. 25 metric tons

D. 26 metric tons

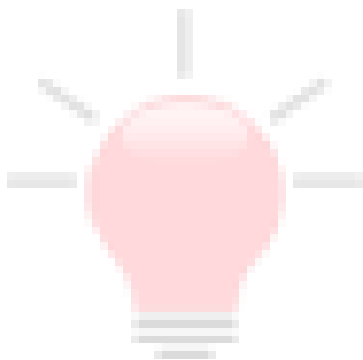
**10. 12 men can complete one-third of work in 8 days. In how many days can 16 men complete the rest of the work?**

A. 18

B. 12

C. 34

D. Can't be determined



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**Correct Answers:**

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

**Explanations:****1.** Given: $M_1 = 30, D_1 = 15, M_2 = 25$  andlet the required number of days ( $D_2$ ) be  $K$ .Using the short trick which is  $M_1D_1 = M_2D_2$ 

We get,

$$30 \times 15 = 25 \times K$$

$$\Rightarrow K = \frac{30 \times 15}{25}$$

$$\Rightarrow K = 18 \text{ days}$$

Hence, option B is correct.

**2.** Let the required number of hours per day be  $z$ . Then,

More boys, Less hours per day (Indirect proportion)

Less days, More hours per day (Indirect proportion)

$$\left. \begin{array}{l} \text{Boys } 18 : 12 \\ \text{Days } 10 : 20 \end{array} \right\} :: 3 : z$$

$$z = \frac{12 \times 20 \times 3}{18 \times 10} = 4 \text{ hrs.}$$

Hence, option A is correct.

**3.** Let required number of days be  $z$ . Then,

Since, 8 boys = 12 girls, therefore,

$$4 \text{ boys} = \left[ \frac{12}{8} \times 4 \right] = 6 \text{ girls.}$$

(4 boys &amp; 8 girls) = (6 girls + 8 boys) = 14 girls

$$\Rightarrow 14 : 12 :: 28 : z$$

$$\text{So, } z = \frac{12 \times 28}{14} = 24 \text{ days.}$$

Hence, option B is correct.

**4.** Let the required number of labourers be z. then,

Less working hrs/ Day, More labourers (Indirect proportion)

More days, Less labourers (Indirect proportion)

$$\left. \begin{array}{l} \text{Hours } 5 : 7 \\ \text{Days } 40 : 30 \end{array} \right\} :: 20 : z$$

$$z = \frac{7 \times 30 \times 20}{5 \times 40} = 21 \text{ labourers.}$$

Hence, option B is correct.

**5.** Let required number of days be z. Then,

Less pumps, More days (Indirect proportion)

Less weight, Less days (Direct proportion)

More hours/ day, Less days (Indirect proportion)

$$\left. \begin{array}{l} \text{Pumps } 20 : 25 \\ \text{water } 2500 : 1200 \\ \text{Hours } 8 : 5 \end{array} \right\} :: 20 : z$$

$$z = \frac{25 \times 1200 \times 20 \times 5}{20 \times 2500 \times 8} = \frac{15}{2} \text{ days.}$$

Hence, option C is correct.

**6.** Let required number of chairs be z. Then,

More carpenters, More chairs (Direct proportion)

More hours per day, More chairs (Direct proportion)

More days, More chairs (Direct proportion)

$$\left. \begin{array}{l} \text{Carpenters } 8 : 12 \\ \text{Hours } 5 : 8 \\ \text{Days } 24 : 36 \end{array} \right\} :: 350 : z$$

$$z = \frac{12 \times 8 \times 36 \times 350}{8 \times 5 \times 24} = 1260 \text{ chairs.}$$

Hence, option A is correct.

**7.** To solve this question, we can apply a short trick approach;

If  $M_1$  persons can do  $W_1$  works in  $D_1$  days working  $T_1$  hours a day and  $M_2$  persons can do  $W_2$  works in  $D_2$  days working  $T_2$  hours a day then we have a short-trick formula which is  $M_1 D_1 T_1 W_2 = M_2 D_2 T_2 W_1$

Given:

$M_1 = 30$ ,  $D_1 = 24$  days,  $W_1 = 1500$  units,  $T_1 = 6$  hours a day

$M_2 = 18$ ,  $D_2 = ?$ ,  $W_2 = 1800$  units,  $T_2 = 8$  hours a day

By the short trick approach,

$$M_1 D_1 T_1 W_2 = M_2 D_2 T_2 W_1$$

$$\Rightarrow 30 \times 24 \times 6 \times 1800 = 18 \times D_2 \times 8 \times 1500$$

$$\Rightarrow D_2 = \frac{30 \times 24 \times 6 \times 1800}{18 \times 8 \times 1500} \Rightarrow D_2 = 36 \text{ days.}$$

Hence, option C is correct.

**8.** 3 men = 5 women

6 men + 5 women = 15 women

$\therefore$  By  $M_1 D_1 = M_2 D_2$

$$\Rightarrow 5 \times 12 = 15 \times D_2$$

$$D_2 = \frac{5 \times 12}{15} = 4 \text{ days.}$$

Hence, option A is correct.

**9.** To solve this question, we can apply a short trick approach;

If  $M_1$  persons can do  $W_1$  work in  $H_1$  hours and  $M_2$  persons can do  $W_2$  work in  $H_2$  hours,  $M_1 T_1 W_2 = M_2 T_2 W_1$

Given:

$\therefore$  4 engines latter type = 3 engines former type

$\therefore$  8 engines latter type = 6 engines former type

$M_1 = 9$ ,  $H_1 = 8$  hours/day,  $W_1 = 24$  m tons

$M_2 = 8$ ,  $H_2 = 13$  hours/day,  $W_2 = x$  m tons

Now, as  $M_1 H_1 W_2 = M_2 H_2 W_1$

$$\Rightarrow 9 \times 8 \times x = 6 \times 13 \times 24$$

$$\Rightarrow x = \frac{6 \times 13 \times 24}{9 \times 8} \Rightarrow x = 26 \text{ m tons.}$$

Hence, option D is correct.

**10.** To solve this question, we can apply a short trick approach;

If  $M_1$  persons can do  $W_1$  works in  $D_1$  days and  $M_2$  persons can do  $W_2$  works in  $D_2$  days then we have a short-trick formula which is  $M_1 D_1 W_2 = M_2 D_2 W_1$

Given:

$$M_1 = 12, D_1 = 8, W_1 = \frac{1}{3},$$

$$M_2 = 16, D_2 = ?, W_2 = 1 - \frac{1}{3} = \frac{2}{3}$$

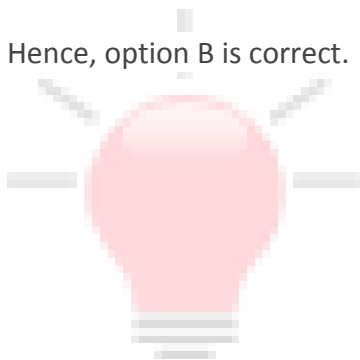
Now, as

$$M_1 D_1 W_2 = M_2 D_2 W_1$$

$$\Rightarrow 12 \times 8 \times \frac{2}{3} = 16 \times ? \times \frac{1}{3}$$

$$\Rightarrow ? = \frac{12 \times 8 \times 2 \times 3}{16 \times 3} = 12 \text{ days.}$$

Hence, option B is correct.



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