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

### Time and work Quiz 4

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

**1. A, B and C can complete a piece of work in 12, 24 and 36 days respectively. In how many days will they together complete the same work?**

- A.  $5\frac{6}{11}$  days                      B. 4 days                      C.  $6\frac{6}{11}$  days                      D. 6 days

**2. A is twice as good a workman as B and together they finish a piece of work in 14 days. The number of days taken by A alone to finish the work is**

- A. 11 days                      B. 21 days                      C. 28 days                      D. 42 days

**3. 'A' can complete a piece of work in 12 days 'A' and 'B' together can complete the same piece of work in 8 days. In how many days can 'B' alone complete the same piece of work?**

- A. 15 days                      B. 18 days                      C. 24 days                      D. 28 days

**4. A is thrice as good a work man as B and takes 60 days less than B for doing a job. The time in which they can do it together is:**

- A. 15 days                      B. 60 days                      C.  $22\frac{1}{2}$  days                      D. 28 days

**5. A can do a piece of work in 20 days and B can do the same piece of work in 30 days. Find in how many days both can do the work?**

- A. 28                      B. 20                      C. 34                      D. 12

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

- A. 14                      B. 11                      C. 12                      D. 13

**7. A can do a piece of work in 4 days and B can complete the same work in 12 days. What is the number of days required to do the same work together?**

- A. 2 days                      B. 3 days                      C. 4 days                      D. 5 days

**8. A and B can do a piece of work in 15 days. B and C can the same work in 10 days and A and C can do the same in 12 days. Time taken by A, B and C together to do the job is**

A. 8 days

B. 9 days

C. 4 days

D. 5 days

**9. A's 2 days work is equal to B's 3 days work. If A can complete the work in 8 days then to complete the work B will take:**

A. 14 days

B. 12 days

C. 15 days

D. 16 days

**10. X completes a job in 2 days and Y completes it in 3 days and Z takes 4 days to complete it. If they work together and get Rs. 3900 for the job, then how much amount does Y get?**

A. Rs. 1800

B. Rs. 1200

C. Rs. 900

D. Rs. 800



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**Correct Answers:**

|          |          |          |          |          |          |          |          |          |           |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| C        | B        | C        | C        | D        | B        | B        | A        | B        | B         |

**Explanations:**

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

If A, B and C can do a work in x, y and z days respectively then all of them working together can finish the work in

$$\left(\frac{xyz}{xy + yz + zx}\right) \text{ days}$$

Given:

Time taken by A = x = 12 days.

Time taken by B = y = 24 days.

Time taken by C = z = 36 days.

By the short trick approach:

A, B and C can do the work in

$$= \frac{12 \times 24 \times 36}{12 \times 24 + 24 \times 36 + 36 \times 12}$$

After taking 24 as a common term we get,

$$= \frac{12 \times 36}{12 + 36 + 18}$$

After taking 6 as a common term we get,

$$= \frac{2 \times 36}{2 + 6 + 3} = \frac{72}{11} = 6\frac{6}{11}$$

Hence, option C is correct.

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

A is n times as good a workman as B. If together, they finish the work in x days, then A and B separately can do the same work in

$$\left(\frac{n+1}{n}\right) x \text{ days and in } (n+1) x \text{ days respectively.}$$

By the short trick approach:

A finish the work in

$$\left(\frac{2+1}{2}\right) \times 14 = 21 \text{ days}$$

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

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

Given:

Time taken by A and B together to finish a piece of work = x = 8 days.

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

By the short trick approach:

B alone can do the whole work in

$$\frac{8 \times 12}{12 - 8} = \frac{96}{4} = 24 \text{ days}$$

Hence, option C is correct.

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

If A is 'n' times as fast (or slow) as B, and is therefore able to finish a work in 'D' days less (or more) than B, then the time in which they can do it working together is given by

$$\left( \frac{Dn}{n^2 - 1} \right) \text{ days}$$

Given:

A takes 60 days less than B = D = 60 days

A is 3 times as fast as B = n = 3

By the short trick approach:

$$\text{Reqd. Ans.} = \frac{60 \times 3}{3^2 - 1} = \frac{60 \times 3}{8} = \frac{45}{2}$$

$$= 22\frac{1}{2} \text{ days}$$

Hence, option C is correct.

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

If A can do a piece of work in x days and B can do it in y days then A and B working together will do the same work in

$$\left( \frac{xy}{x+y} \right) \text{ days.}$$

Given:

A's time = x = 20 days, B's time = y = 30 days

By the short trick approach:

A + B can do the work in

$$\frac{20 \times 30}{20 + 30} \text{ days}$$

$$= \frac{600}{50} = 12 \text{ days.}$$

Hence, option D is correct.

**6.** Let's take  $x$  as the total number of days taken by A, B and C together.

Therefore, as per the question the equation will be,

$$\frac{x}{24} + \frac{x}{30} + \frac{(x-4)}{40} = 1$$

$$= \frac{5x + 4x + 3x - 15}{120} = 1$$

$$= \frac{12x - 12}{120} = 1 \Rightarrow \frac{12(x-1)}{120} = 1$$

$$\Rightarrow x - 1 = 10 \Rightarrow x = 11.$$

Hence, option B is correct.

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

$$\text{Reqd. no. of days} = \left( \frac{xy}{x+y} \right) \text{ days}$$

$x$  = the time taken by A to do the work = 4 days

$y$  = the time taken by B to do the work = 12 days

By the short trick approach, we get

$$\text{Reqd. no. of days} = \left( \frac{4 \times 12}{4 + 12} \right) = \frac{48}{16} = 3 \text{ days.}$$

Hence, option B is correct.

**8.** To solve this question we can apply a short trick approach

A, B & C done the job

$$= \frac{2xyz}{xy + yz + zx}$$

Where,

$x$  is the work done by A and B together = 15 days

$y$  is the work done by B and C together = 10 days

$z$  is the work done by C and A together = 12 days

By the short trick approach, we get

A, B & C done the job

$$= \frac{2 \times 15 \times 10 \times 12}{15 \times 10 + 10 \times 12 + 12 \times 15}$$

$$= \frac{2 \times 15 \times 10 \times 12}{150 + 120 + 180}$$

$$= \frac{2 \times 15 \times 10 \times 12}{450} = 8 \text{ days.}$$

Hence, option A is correct.

9. Men = m; Boys = b.

From the given information,

$$(2m + 4b) \times 10 \equiv (4m + 5b) \times 6$$

$$\Rightarrow 20m + 40b \equiv 24m + 30b$$

$$\Rightarrow 4m \equiv 10b$$

$$\Rightarrow 2m \equiv 5b$$

$$\therefore 5b = 2 \times 40$$

$$\Rightarrow 1b = \frac{2 \times 40}{5} = 16$$

$$\therefore \text{Required ratio} = 40 : 16 = 5 : 2$$

Hence, option B is correct.

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

If A and B can do a piece of work in x days, B and C in y days, C and A in z days, then (A + B + C) working together will do the same work in

$$\left[ \frac{2xyz}{xy + yz + zx} \right] \text{ days}$$

Given:

A and B together finish a piece work = x = 20 days

B and C together finish a piece work = y = 10 days

C and A together finish a piece work = z = 12 days

By the short trick approach:

A, B and C can do the work in

$$= \frac{2 \times 20 \times 10 \times 12}{20 \times 10 + 10 \times 12 + 12 \times 20} \text{ days}$$

After taking 40 as a common term we get,

$$= \frac{10 \times 12}{5 + 3 + 6} \text{ days} = \frac{120}{14} = 8\frac{4}{7} \text{ days}$$

Hence, option C is correct.



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