1- A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

- **A.**Rs. 375
- **B.**Rs. 400
- **C.**Rs. 600
- **D.**Rs. 800
- **E.**None of these

Answer & Explanation

Answer - **B** (Rs. 400)

Explanation -

$$\text{C's 1 day's work} = \frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}.$$

$$\text{A's wages : B's wages : C's wages} = \frac{1}{6} : \frac{1}{8} : \frac{1}{24} = 4 : 3 : 1.$$

$$\text{C's share (for 3 days)} = \text{Rs.}\left(3 \times \frac{1}{24} \times 3200\right) = \text{Rs. } 400.$$

2- A is thrice as good as workman as B and therefore is able to finish a job in 60 days less than B. Working together, they can do it in:

- **A.**20 days
- **B.**22 1/2 days
- **C.**25 days
- **D.**30 days
- **E.**None of these

Answer & Explanation

Answer - **B** (22 1/2 days)

Explanation - Ratio of times taken by A and B = 1 : 3.

The time difference is (3 - 1) 2 days while B take 3 days and A takes 1 day.

If difference of time is 2 days, B takes 3 days.

If difference of time is 60 days, B takes $\frac{3}{2} \times 60 = 90$ days.

So, A takes 30 days to do the work.

A's 1 day's work = $\frac{1}{30}$

B's 1 day's work = $\frac{1}{90}$

(A + B)'s 1 day's work = $\left(\frac{1}{30} + \frac{1}{90}\right) = \frac{4}{90} = \frac{2}{45}$

A and B together can do the work in $\frac{45}{2} = 22\frac{1}{2}$ days.

$\frac{}{2}$ $\frac{}{2}$

3- 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 is assisted by B and C on every third day?

- **A.**12 days
- **B.**15 days
- **C.**16 days
- **D.**18 days
- **E.**None of these

Answer & Explanation

Answer - **B** (15 days)

Explanation -

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

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

Work done in 3 days $= \frac{1}{10} + \frac{1}{10} = \frac{1}{5}$.

Now, $\frac{1}{5}$ work is done in 3 days.

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

4- A can lay railway track between two given stations in 16 days and B can do the same job in 12 days. With help of C, they did the job in 4 days only. Then, C alone can do the job in:

- **A.**9 1/5 days
- **B.**9 2/5 days
- **C.**9 3/5 days
- **D.**10 days
- **E.**None of these

Answer & Explanation

Answer - **C** (9 3/5 days)

Explanation -

$$(A + B + C)\text{'s 1 day's work} = \frac{1}{4},$$

$$A\text{'s 1 day's work} = \frac{1}{16},$$

$$B\text{'s 1 day's work} = \frac{1}{12}.$$

$$C\text{'s 1 day's work} = \frac{1}{4} - \left(\frac{1}{16} + \frac{1}{12}\right) = \frac{1}{4} - \frac{7}{48} = \frac{5}{48}.$$

$$\text{So, C alone can do the work in } \frac{48}{5} = 9\frac{3}{5}\text{ days.}$$

5- A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is:

- **A.**1/4
- **B.**1/10
- **C.**7/15
- **D.**8/15
- **E.**None of these

Answer & Explanation

Answer - **D** (8/15)

Explanation -

A's 1 day's work $= \frac{1}{15}$;

B's 1 day's work $= \frac{1}{20}$;

(A + B)'s 1 day's work $= \frac{1}{15} + \frac{1}{20} = \frac{7}{60}$.

(A + B)'s 4 day's work $= \frac{7}{60} \times 4 = \frac{7}{15}$.

Therefore, Remaining work $= 1 - \frac{7}{15} = \frac{8}{15}$.

6- A is thrice as good a workman as B and therefore is able to finish a job in 60 days less than B. Working together, they can do it in:

- **A.**20 days
- **B.**22 1/2 days
- **C.**25 days
- **D.**27 1/2days
- **E.**None of these

Answer & Explanation

Answer - **B** (22 1/2 days)

Explanation -

Ratio of times taken by A and B = 1 : 3.

If difference of time is 2 days, B takes 3 days.

If difference of time is 60 days, B takes $\frac{3}{2} \times 60 = 90$ days.

So, A takes 30 days to do the work.

A's 1 day's work = $\frac{1}{30}$; B's 1 day's work = $\frac{1}{90}$

(A + B)'s 1 day's work = $\frac{1}{30} + \frac{1}{90} = \frac{4}{90} = \frac{2}{45}$

A and B together can do the work in $\frac{45}{2} = 22\frac{1}{2}$ days.

7- A and B together can do a piece of work in 30 days. A having worked for 16 days, B finishes the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

- **A.**30 days
- **B.**40 days
- **C.**60 days
- **D.**70 days
- **E.**None of these

Answer & Explanation

Answer - **C** (60 days)

Explanation -

Let A's 1 day's work = x and B's 1 day's work = y.

Then, $x + y = \frac{1}{30}$ and $16x + 44y = 1$.

Solving these two equations, we get: $x = \frac{1}{60}$ and $y = \frac{1}{60}$

B's 1 day's work = $\frac{1}{60}$

Hence, A alone shall finish the whole work in 60 days.

8- A and B together can complete a work in 12 days. A alone can complete it in 20 days. If B does the work only for half a day daily, then in how many days A and B together will complete the work?

- **A.**10 days
- **B.**11 days
- **C.**15 days
- **D.**20 days
- **E.**None of these

Answer & Explanation

Answer - **C** (15 days)

Explanation -

B's 1 day's work = $\frac{1}{12} + \frac{1}{20} = \frac{2}{60} = \frac{1}{30}$

Now, (A + B)'s 1 day's work = $\frac{1}{20} + \frac{1}{60} = \frac{4}{60} = \frac{1}{15}$ [B works for half day only]

So, A and B together will complete the work in 15 days.

9- A takes twice as much time as B or thrice as much time to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

- **A.**4 days
- **B.**6 days
- **C.**8 days
- **D.**12 days
- **E.**None of these

Answer & Explanation

Answer - **D** (12 days)

Explanation -

Suppose A, B and C take x, $\frac{x}{2}$ and $\frac{x}{3}$ hours respectively to finish the work.

Then, $\frac{1}{x} + \frac{2}{x} + \frac{3}{x} = \frac{1}{2}$ $\frac{6}{x} = \frac{1}{2}$ $x = 12$.

So, B takes 6 hours to finish the work.

10- If A can do 1/4 of a work in 3 days and B can do 1/6 of the same work in 4 days, how much will A get if both work together and are paid Rs. 180 in all?

- **A.**Rs. 36
- **B.**Rs. 60
- **C.**Rs. 108
- **D.**Rs. 120
- **E.**None of these

Answer & Explanation

Answer - **D** (Rs. 120)

Explanation -

Whole wok is done by A in (3 x 4) = 12 days.

Whole work is done by B in (4 x 6) = 24 days.

A's wages : B's wages = A's 1 day's work : B's 1 day's work = $\frac{1}{12} : \frac{1}{24} = 2 : 1$

A's share = Rs. $\frac{2}{3}$ x 180 = Rs. 120.