Time and work

Time and Work

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Placement for All.. All for Placement

This Video Completely covers the problems on "Time and Work" which is more than sufficient for all kind of placement Exams eg: TCS/WIPRO/AMCAT/ELITMUS/CoCubes and all other placement Exams.

Time and Work by : Pratik Shrivastava(10 years of industry experience and best Aptitude trainer)

Time and Work (Mountain dew Technique)

Q1. If A can complete a piece of work in 10days. B can complete the same piece of work in 15 days. If both of them work together in how many days can they complete the same piece of work?

a)$4\frac{2}{5}$ days b)$5\frac{1}{3}$ days c)6 days d)12days

LCM: 10, 15

10days × 5chair = 50 chair

days × eff = work

A: 10days → 3 eff

B: 15 days → 2

30 (work)

days × eff = work

$\frac{30}{5}$ = 6days

A → 3 work in day

B → 2 work in a day

5 work

dew

Time and Work (Mountain dew Technique)

Q2. If A can complete a piece of work in 4days, B does it in 5 days and C in 10 days. Find the time taken by A, B and C to do the work together.

a) 5.5days b)3 days c)2days d) $1\frac{9}{11}$ days

eff - 1day work

efficiency

A - 4d → 5

B - 5d → 4

C - 10d → 2

20 (work)

A+B+C eff → 11

$\frac{20}{11}$

$\frac{20}{11}$ days

$1\frac{9}{11}$ days

2 | 4, 5, 10

5 | 2, 5, 5

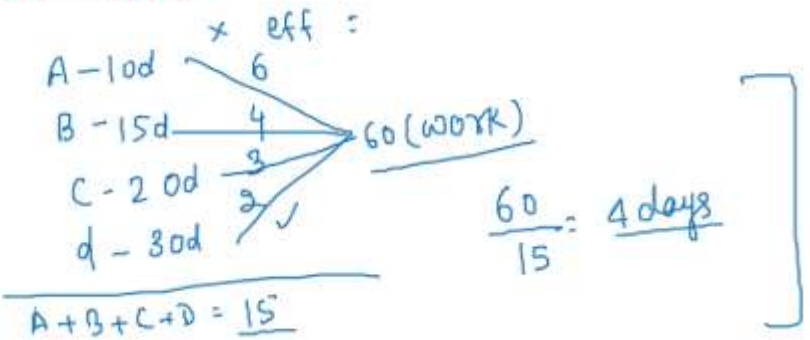
2, 1, 1

2 × 5 × 2 = 20

Time and Work (Mountain dew Technique)

Q3. A can do a work in 10 days, B can do a work in 15days, C can do a work in 20days and D does a work in 30 days. In how many days they together will finish the same work ?

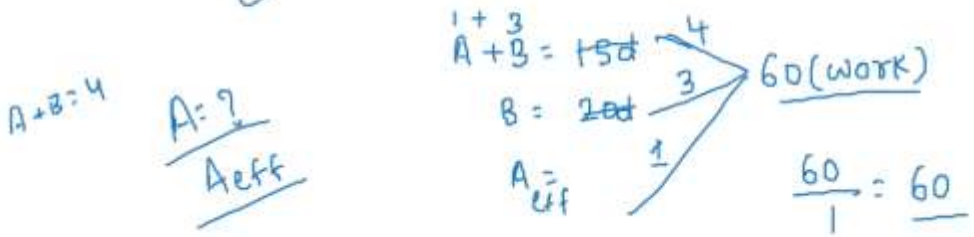
a)3days b)4days c)5days d)6days



Time and Work (Mountain dew Technique)

Q4. A and B together can complete a piece of work in 15days and B alone in 20days.In how many days can A alone complete the work?

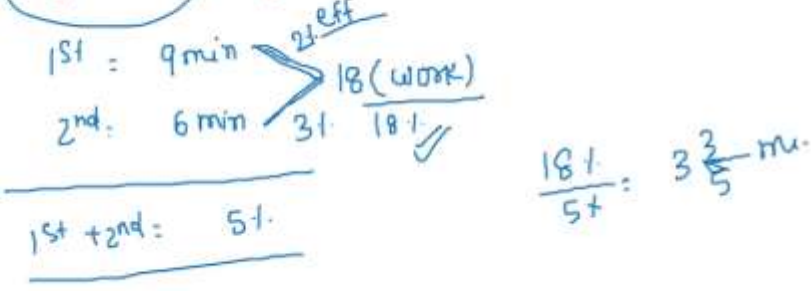
a)40days b)50days c)60days d)20days



Time and Work (Mountain dew Technique)

Q5. A tyre has two punctures. The first puncture alone would have made the tyre flat in 9 minutes and the second alone would have made it in 6minutes.If air leaks out at a constant rate, how long does it take both the punctures together to make it flat ?

a) $1\frac{1}{2}$min b) $3\frac{1}{2}min$ c) $3\frac{3}{5}min$ d) $4\frac{1}{4}$min

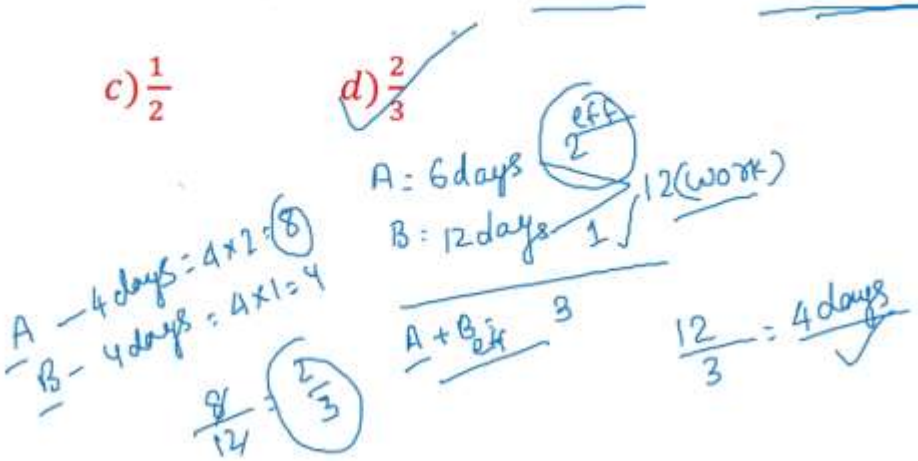


Time and Work (Mountain dew Technique)

Q6. A can complete a piece of work in 6days while B can complete the same work in 12days. If they work together and complete it, the portion of the work done by A is?

a) $\frac{1}{3}$ b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) $\frac{2}{3}$

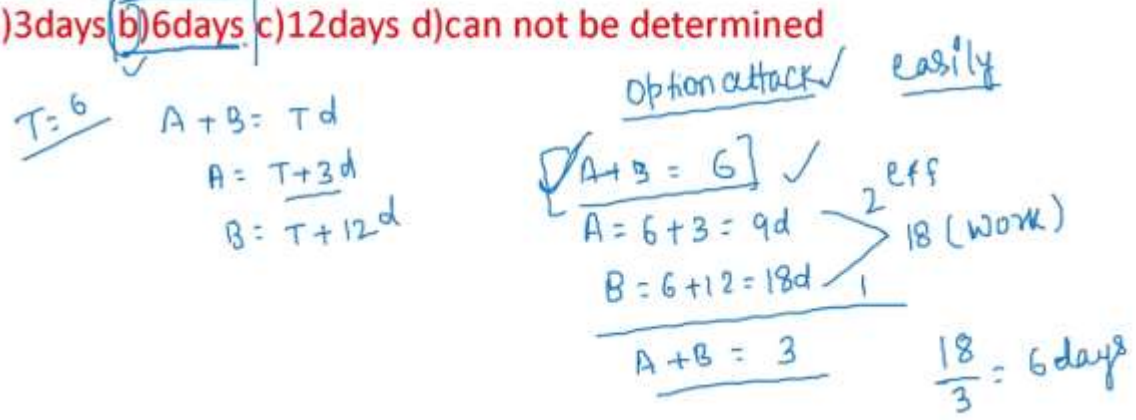
Solution:



Time and Work (Mountain dew Technique)

Q7. A and B together complete a piece of work in T days. If A alone completes the work in T+3 days and B alone completes the piece of work in T+12 days, what is T ?

a)3days b)6days c)12days d)can not be determined

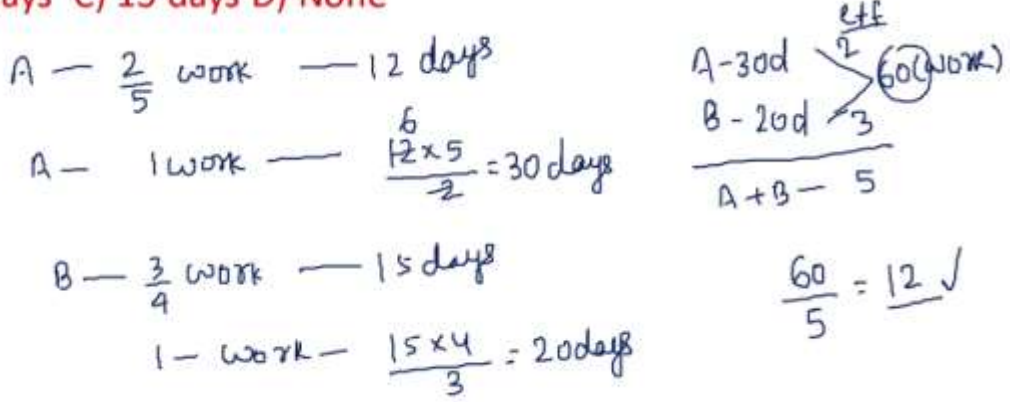


Time and Work

Q8. A can complete $\frac{2}{5}$ of a work in 12 days and B, $\frac{3}{4}$ of the work in 15 days. In how many days both A and B together can complete the work?

A) 10 days B) 12 days C) 13 days D) None

Solution:



Time and Work

Q9. 56 men can complete a piece of work in 24 days, in how many days can 42 men complete the same piece of work?

a) 18 b) 32 c) 98 d) 48 e) None of these

Solution:

$M_1 = 56$ | $M_2 = 42$

$D_1 = 24$ | $D_2 = ?$ 32 ✓

$$\frac{56 \times 24}{W_1} = \frac{42 \times D_2}{W_2}$$

$$D_2 = 32$$

$$\frac{M1 * D1 * H1}{W1} = \frac{M2 * D2 * H2}{W2}$$

Where

M= no of men/women

D= no of days

H= no of hours

W= work

Time and Work

Q10. 21 binders can bind 1400 books in15 days. How many binders will be required to bind 800 books in 20 days?

a) 7 b) 9 c) 12 d) 14 e) None of these

Solution:

$M_1 = 21$ | $M_2 = ?$

$D_1 = 15$ | $D_2 = 20$

$W_1 = 1400$ | $W_2 = 800$

$$\Rightarrow \frac{21 \times 15}{1400} = \frac{M_2 \times 20}{800}$$

$$M_2 = 9$$

$$\frac{M1 * D1 * H1}{W1} = \frac{M2 * D2 * H2}{W2}$$

Where

M= no of men/women

D= no of days

H= no of hours

W= work

Time and Work

Q11. If 5men can do a piece of work in 10days and 12 women can do the same work in 15days, the number of days required to complete the work by 5men and 6women.

a)8days b)7.5days c)6.5days d)11days

Solution:

$\Rightarrow 5M \times 10 = 12W \times 15$

$\Rightarrow 5M = 18W$

✓ 5M & 6W]✓

✓ 18W + 6W

✓ 24W ✓

$$\frac{M_1 D_1}{W_1} = \frac{M_2 D_2}{W_2}$$

$$\frac{12 \times 15}{W_1} = \frac{24 \times D_2}{W_2}$$

$$D_2 = \frac{15}{2} = 7.5$$

Time and Work

Q12. 8 men can complete a piece of work in 20 days, 8 women can complete the same piece of work in 32 days .In how many days will 5 men and 8 women together complete the work?

a)16days b) 12days c)14days d)10days e) None of these.

Solution:

$8M \times 20 = 8W \times 32$

$5M = 8W$ ✓

$\frac{M_1D_1}{W_1} = \frac{M_2D_2}{W_2}$

$\frac{8 \times 32}{W} = \frac{16 \times D_2}{W}$

$D_2 = 16$ days

5M & 8W

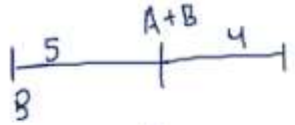
8W + 8W

16W

Time and Work

Q13. A and B can do a job in 16 and 12 days respectively. B worked alone for some days and then A joins B to complete the remaining work in 4days. How many days did B work alone ?

1. 5days 2.6 days 3.8day d.14days



$\frac{20}{4} = 5$

A = 16d, eff 3 ✓

B = 12d, eff 4 ✓

A+B = 7

48 (work)

(A+B) worked for the last 4days

$7 \times 4 = 28$ work

Remaining = 48 − 28 = 20

Time and Work

Q14. A & B and do a piece of work in 12days; B & C in 15days; C & A in 20days. In how many days working together they will finish the work?

a)5days b)7days c)10days d)15days

✓ A+B = 12d, eff 5

✓ B+C = 15d, eff 4

✓ C+A = 20d, eff 3

60 (work)

$2A + 2B + 2C = 12$

$2(A+B+C) = 12$

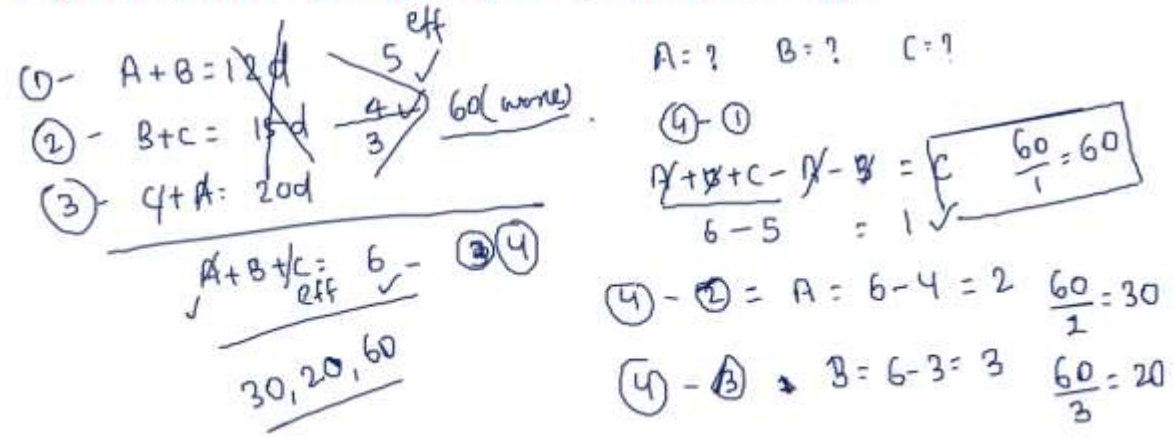
$A+B+C_{eff} = \frac{12}{2} = 6$ ✓

$\frac{60}{6} = 10$ days

Time and Work

Q15. A & B and do a piece of work in 12days; B & C in 15days; C & A in 20days. In how many days they finish the work separately ?

a)30,20,60days b)15,20,35days c)20,60,40days d)35,40,50days

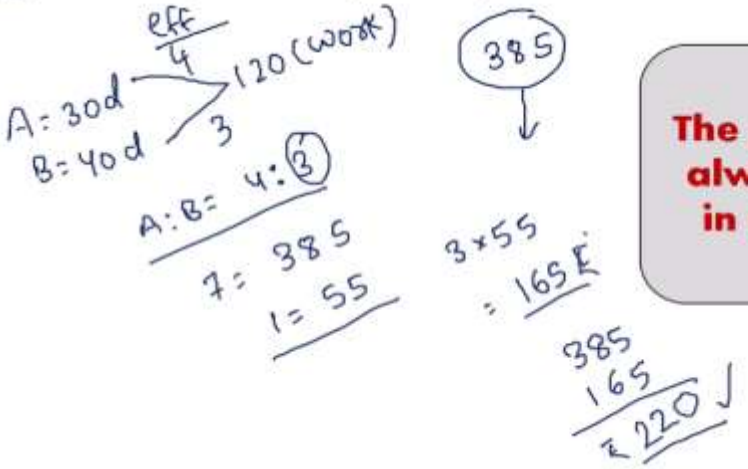


Time and Work(Efficiency based)

Q16. A can build a wall in 30days, which B alone can build in 40days. If they build it together and get a payment of ₹385, what is B'shares?

a) ₹175 b) ₹165 c) ₹185 d) ₹195 e) None of these.

Solution:



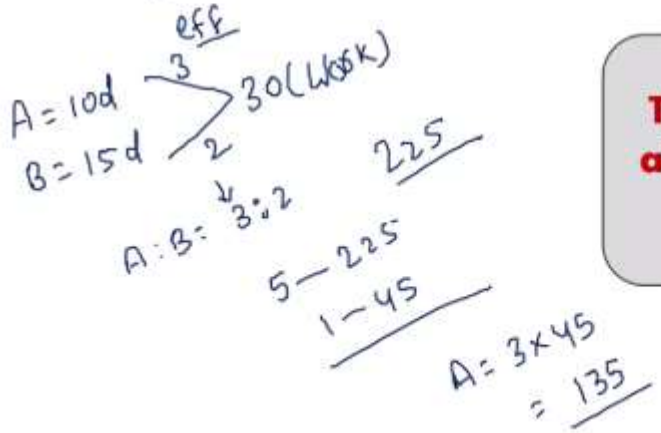
The payment/Wages always get divided in efficiency ratio.

Time and Work(Efficiency based)

Q17. A alone can finish a work in 10days and B alone can do it in 15days.If they work together and finish it, then out of the total wages of ₹225, the amount (in rupees) that A will get is.

a) ₹90 b) ₹112.50 c) ₹135 d) ₹150 e) None of these.

Solution:



The payment/Wages always get divided in efficiency ratio.

Time and Work(efficiency based)

Q18. A is twice as good a workman as B, together they finish a piece of work in 18days . In how many days will A alone finish the same piece of work ?

a) 27days b) 54days c) 56days d) 68days

Mountain dew :
Days * Efficiency = Work

V.V.I

A = 2B → eff

Assume

= WB

eff days work

⇒ $W_A = W_{A+B}$

$2D = 54$

$D = 27$

	days	eff	work
A	D (27)	× 2	2D
B		1	
A+B	18	× 3	= 54

Time and Work(efficiency based)

Q19. A is thrice as good a workman as B and takes 10days less to do a piece of work than B takes. B alone can do the whole work in ?

a) 15days b) 12days c) 18days d) 8days

A = 3B

dew

	days	eff	work
A	(D-10)(5)	3	
B	D(15)	1	
A+B			

$W_A = W_B$

$= (D-10) \times 3 = D \times 1$

$= 3D - 30 = D$

$2D = 30$

$D = 30/2 = 15$

Time and Work(efficiency based)

Q20. P is 30% more efficient than Q. P can complete a work in 23 days. If P and Q work together, how much time will it take to complete the same work?

A. 9days B. 11days C. 13days D. 15days

	days	eff	work
P	23	13	
Q		10	
P+Q	D	23	

$W_P = W_{P+Q} = W_B$

$23 \times 13 = D \times 23$

$D = 13$

⇒ $P = Q + \frac{Q \times 30}{100}$

$P = Q\left(1 + \frac{30}{100}\right)$

$P = Q \times \frac{130}{100}$ → $P = \frac{13Q}{10}$ → $= \frac{13 \times 10}{10}$

(1)

Alone

Time and Work(Alternate day problem)

Q21. A can complete a piece of work alone in 10days. B can complete the work working alone in 15days. If they work on alternate days, starting with A, the work would be completed in how many days.

A. 9days B. 11days C. 12days D. 15days