

Solutions by Dev Anoop

Q) Persons

	A	B	A+B
Time taken to do work (in days)	14	21	$x$
work done in 1 day	$\frac{1}{14}$	$\frac{1}{21}$	$\frac{1}{x} = \frac{5}{42}$

acc to conv  $\frac{1}{x} = \frac{1}{14} + \frac{1}{21}$

$$\Rightarrow \frac{1}{x} = \frac{3+2}{42}$$

$$\Rightarrow \frac{1}{x} = \frac{5}{42}$$

work done by A and B in 6 days = ~~6~~  $\times \frac{5}{42}$   
 $= \frac{5}{7}$

work left =  $1 - \frac{5}{7}$   
 $= \frac{2}{7}$

1 work is done by B in 21 days

$\frac{2}{7}$  work is done by B in  $3 \times 21 \times \frac{2}{7}$   
 $= 6$  days

Q)  $\frac{2}{3}$  work is done by A in 16 days

1 work is done by A in  $16 \times \frac{3}{2} = 24$  days

$\frac{1}{4}$  work is done by B in 3 days

1 work is done by B in  $3 \times 4 = 12$  days

let time taken to complete work tog =  $x$  days

$$\frac{1}{x} = \frac{1}{24} + \frac{1}{12} \quad | \Rightarrow \frac{1}{x} = \frac{1+2}{24} \quad | \Rightarrow \frac{1}{x} = \frac{3}{24} \quad | \Rightarrow x = 8$$