

Time & work

- 2) If 2 Men and 3 women can do a work in 8 days.
3 Men and 2 women can do the same work in 7 days.
How many days will 5 Men and 4 women take to do it?

$$\boxed{2M + 3W \rightarrow 8 \text{ days}}$$

$$3M + 2W \rightarrow 7 \text{ days}$$

$$M_1 D_1 = M_2 D_2$$

$$(2M + 3W) 8 = (3M + 2W) 7$$

$$16M + 24W = 21M + 14W$$

$$24W - 14W = 21M - 16M$$

$$10W = 5M$$

$$5M = 10W$$

$$2W = 1M$$

$$\Rightarrow 1M = 2W$$

$$\Rightarrow 2M = 4W$$

$$2M + 3W \rightarrow 8 \text{ days}$$

$$4W + 3W \rightarrow 8 \text{ days}$$

$$\boxed{7W \rightarrow 8 \text{ days}}$$

$$\rightarrow 5M + 4W \rightarrow ?$$

$$10W + 4W \rightarrow ?$$

$$\boxed{14W \rightarrow ?}$$

$$M_1 D_1 = M_2 D_2$$

$$7 \times 8 = 14 \times D_2$$

$$\boxed{D_2 = 4 \text{ days}}$$