

Answer on Question #43699 – Math – Algebra

2 men or 3 women can do a piece of work in 16 days. In how many days can 4 men and 6 women do the same work.

Solution.

Let's w – is the work that should be done.

If 2 men can do work in 16 days, then the speed of men's work is

$$v_m = \frac{w}{2 \cdot 16} = \frac{w}{32}$$

If 3 women can do work in 16 days, then the speed of women's work is

$$v_w = \frac{w}{3 \cdot 16} = \frac{w}{48}$$

So, 4 men and 6 women can do the same work in

$$t = \frac{w}{4v_m + 6v_w} = \frac{w}{\frac{4w}{32} + \frac{6w}{48}} = \frac{w}{\frac{w}{8} + \frac{w}{8}} = \frac{w}{\frac{w}{4}} = 4 \text{ days}$$