Workers and Time

PR04-V1 · storyboard · PR04 Workers and time. Read each picture with its sentences.

Picture 1

Twelve people clear a field in 18 hours. How long would nine people take?

$$12 \times 18 = 216$$ person-hours: the job

$$\boxed{216 \div 9 = 24 \text{ hours}}$$

1. Twelve people clear a field in 18 hours.
2. How long would nine people take?
3. The job is 12 times 18, that is 216 person-hours.
4. Share it among nine people: 216 divided by 9 is 24 hours.

Picture 2

Trap $12 \to 9$ people

$\times\ 18 \times \frac{9}{12} = 13.5$ h

$\checkmark\ \ 216 \div 9 = 24$ h

5. Watch for the trap: treating it as direct.
6. Fewer people can't finish sooner.
7. They take longer.

Picture 3

Five people mow a lawn in 12 hours. How many more are needed to do it in 3 hours?

$$5 \times 12 = 60 \quad \text{person-hours}$$

$$60 \div 3 = 20 \text{ people}$$

$$\boxed{20 - 5 = 15 \text{ more}}$$

8. Five people mow a lawn in 12 hours.
9. How many more people are needed to do it in 3 hours?
10. The job is 60 person-hours.
11. In 3 hours that needs 20 people.
12. They already have 5, so 15 more.

Picture 4

Trap how many more?

$\times$ 20

✓ $20 - 5 = 15$

13. Watch for the second trap: how many more is not how many.
14. Take away the people you already have.