

Interleaved: direct and inverse proportion

ANSWERS

1

4 cinema tickets cost £26. How much do 7 tickets cost?

Which method? ☒ Direct ☐ Inverse ☐ Neither
more tickets, more cost: one ticket £6.50, $\times 7$

Answer £45.50

2

5 volunteers take 12 hours to pack the food parcels. How long would 4 volunteers take, working at the same rate?

Which method? ☐ Direct ☒ Inverse ☐ Neither
fewer people, more time: $5 \times 12 = 60$ hours of work, $\div 4$

Answer 15 hours

3

300 g of flour makes 8 pancakes. How much flour is needed for 20 pancakes?

Which method? ☒ Direct ☐ Inverse ☐ Neither

Answer 750 g

4

A band of 4 musicians takes 3 minutes to play a song. How long would a band of 8 musicians take to play the same song?

Which method? ☐ Direct ☐ Inverse ☒ Neither

Answer 3 minutes

5

With 2 taps open, a water tank empties in 18 minutes. How long does it take with 3 taps open?

Which method? ☐ Direct ☒ Inverse ☐ Neither

Answer 12 minutes

6

A car uses 15 litres of fuel to travel 240 km. How far can it travel on 40 litres?

Which method? ☒ Direct ☐ Inverse ☐ Neither

Answer 640 km

7

At 60 km/h a journey takes 2 hours 30 minutes. How long does the same journey take at 75 km/h?

Which method? ☐ Direct ☒ Inverse ☐ Neither

Answer 2 hours

8

Rosa is 13 years old and 160 cm tall. How tall will she be when she is 26?

Which method? ☐ Direct ☐ Inverse ☒ Neither

Answer cannot be worked out

Interleaved: direct and inverse proportion *further practice*

ANSWERS

9

A rescue centre has enough food for 30 dogs for 14 days. How long would the same food last 35 dogs?

Answer 12 days

10

£1 is worth €1.16. Change £250 into euros.

Answer £290

11

One cake takes 40 minutes to bake in an oven. How long do two cakes take, baked side by side in the same oven?

Answer 40 minutes

12

3 pumps fill a pool in 8 hours. How many pumps are needed to fill it in 6 hours?

Answer 4 pumps

13

y is directly proportional to x . When $x = 6$, $y = 21$. Find y when $x = 10$.

$y = 3.5x$
 Answer 35

14

y is inversely proportional to x . When $x = 4$, $y = 15$. Find y when $x = 6$.

$xy = 60$
 Answer 10

15

Pay is directly proportional to the hours worked. Find the missing pay.

Hours worked	2	5	8
Pay	£23	£57.50	?

£11.50 an hour
 Answer £92

16

4 workers build a wall in 6 days. Jo says 8 workers would take 12 days. Explain her mistake and find the right time.

more workers take less time, so $4 \times 6 = 24$ days of work, $\div 8$
 Answer 3 days