

Proportion Equations

ANSWERS 

1

$$y = 3x$$

Direct proportion, inverse proportion or neither?

x	1	2	4	5
y	3	6	12	15
$y \div x$	3	3	3	3
$x \times y$	3	12	48	75

Answer Direct

2

$$y = \frac{20}{x}$$

Direct proportion, inverse proportion or neither?

x	1	2	4	5
y	20	10	5	4
$y \div x$	20	5	1.25	0.8
$x \times y$	20	20	20	20

Answer Inverse

3

$$y = 5x$$

Direct proportion, inverse proportion or neither?

x	1	2	3	6
y	5	10	15	30
$y \div x$	5	5	5	5
$x \times y$	5	20	45	180

Answer Direct

4

$$y = \frac{24}{x}$$

Direct proportion, inverse proportion or neither?

x	1	2	4	8
y	24	12	6	3
$y \div x$	24	6	1.5	0.375
$x \times y$	24	24	24	24

Answer Inverse

5

$$y = 2x + 1$$

Direct proportion, inverse proportion or neither?

x	1	2	4	5
y	3	5	9	11
$y \div x$	3	2.5	2.25	2.2
$x \times y$	3	10	36	55

Answer Neither

6

$$y = \frac{x}{2}$$

Direct proportion, inverse proportion or neither?

x	2	4	6	10
y	1	2	3	5
$y \div x$	0.5	0.5	0.5	0.5
$x \times y$	2	8	18	50

Answer Direct

7

$$y = \frac{36}{x}$$

Direct proportion, inverse proportion or neither?

$x \times y = 36$ every time

Answer Inverse

8

$$y = x + 6$$

Direct proportion, inverse proportion or neither?

neither one stays the same

Answer Neither

Proportion Equations further practice

ANSWERS 

9

$$y = 2.5x$$

Direct proportion, inverse proportion or neither?

$y \div x = 2.5$ every time

Answer Direct

10

Are x and y in direct proportion, inverse proportion or neither?

x	2	3	5	8
y	30	20	12	7.5

$x \times y = 60$ every time

Answer Inverse

11

$$y = 20 - x$$

Direct proportion, inverse proportion or neither?

$x \times y$: 36, 64, $y \div x$: 9, 4

Answer Neither

12

A coach makes a 240 km journey. The time, t hours, and the average speed, s km/h, are linked by $t = \frac{240}{s}$. Are t and s in direct proportion, inverse proportion or neither?

$s \times t = 240$ every time

Answer Inverse

13

The table shows the cost of concert tickets bought online. Is the cost directly proportional to the number of tickets? Explain.

Tickets	1	2	3	4
Cost (£)	27	52	77	102

$27 \div 1 = 27$, $52 \div 2 = 26$, not the same

Answer No

14

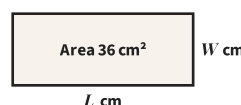
y is directly proportional to x . Complete the table.

x	4	10	14	30
y	14	35	49	105

$y \div x = 14 \div 4 = 3.5$

15

A rectangle has an area of 36 cm^2 . (a) Write a formula for L in terms of W . (b) Are L and W in direct or inverse proportion?



$$L \times W = 36$$

$$L = \frac{36}{W}$$

(a) Inverse
(b) Inverse

16

y is inversely proportional to x . Jade says that when x is doubled, y is doubled too. Is she right? Explain.

$x \times y$ stays the same, $2 \times 15 = 30$, $4 \times 7.5 = 30$

Answer No, y halves