Direct or inverse? Proportion from a table

ANSWERS

1

Complete the two check rows.
Direct proportion, inverse proportion or neither?

x	1	2	4	5
y	4	8	16	20
$y \div x$	4	4	4	4
$x \times y$	4	16	64	100

Answer Direct

2

Complete the two check rows.
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

3

Complete the two check rows.
Direct proportion, inverse proportion or neither?

x	1	2	3	6
y	5	7	9	15
$y \div x$	5	3.5	3	2.5
$x \times y$	5	14	27	90

Answer Neither

4

Complete the two check rows.
Direct proportion, inverse proportion or neither?

x	2	5	8	10
y	3	7.5	12	15
$y \div x$	1.5	1.5	1.5	1.5
$x \times y$	6	37.5	96	150

Answer Direct

5

Is this direct proportion or inverse proportion? Find the missing value.

x	3	4	6	9
y	24	18	12	8

$3 \times 24 = 4 \times 18 = 9 \times 8 = 72$

$72 \div 6 = 12$

Answer Inverse, 12

6

A baker's table shows the flour needed for different numbers of bread rolls.
Is the flour directly proportional to the number of rolls? How many rolls does 990 g of flour make?

Rolls	6	10	15	22
Flour (g)	270	450	675	990

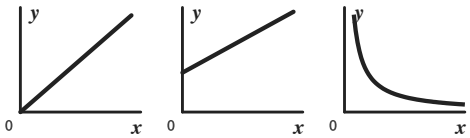
$270 \div 6 = 450 \div 10 = 675 \div 15 = 45$

$990 \div 45 = 22$

Answer Yes, 22 rolls

7

Each graph shows y against x.
Which shows direct proportion?
Which shows inverse proportion?
Which shows neither?



A direct

B neither

C inverse

Answer A direct, C inverse, B neither

8

Priya says y is directly proportional to x, because as x goes up, y goes up too.
Is she right? Explain.

x	2	4	6	8
y	7	9	11	13

$y \div x$: 3.5, 2.25 ... not the same

$x \times y$: 14, 36 ... not the same

Answer No, neither

Direct or inverse? Proportion from a table *further practice*

ANSWERS

9

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

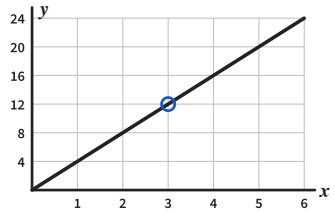
x	0.5	2	2.5	4
y	16	4	3.2	2

$x \times y = 8$ every time

Answer Inverse

10

The graph shows that y is directly proportional to x. Find y when $x = 15$.



(3, 12): $12 \div 3 = 4$

$y = 4 \times 15$

$y =$ 60

11

Identical pumps fill a tank.
The table shows how long it takes.
How many pumps would fill it in 1.5 hours?

Pumps	2	3	4	8
Hours	6	4	3	1.5

$2 \times 6 = 3 \times 4 = 4 \times 3 = 12$

$12 \div 1.5 = 8$

Answer 8 pumps

12

y is inversely proportional to x.
Complete the table.

x	2	4	5	8
y	10	5	4	2.5

$x \times y = 2 \times 10 = 20$

Answer 5, 4, 8

13

The table shows the monthly cost of three phone plans. Is the cost directly proportional to the data? Explain.

Data (GB)	5	10	20
Cost (£)	8	12	20

cost ÷ data: 1.6, 1.2, 1

not the same, so not direct

Answer No

14

The cost of ribbon is directly proportional to its length.
Complete the table.

Length (m)	1.5	4	7.5	10
Cost (£)	6	16	30	40

$6 \div 1.5 = 40 \div 10 = 4$

$4 \times 4 = 16$, $30 \div 4 = 7.5$

Answer £16, 7.5 m

15

y is inversely proportional to x, and the point (2, 9) is on its graph.
Which of these points are also on the graph? (3, 6) (4, 4) (9, 2) (6, 4)

$2 \times 9 = 18$

$3 \times 6 = 18$, $9 \times 2 = 18$

Answer (3, 6) and (9, 2)

16

Tom says, "As x goes up, y goes down, so y is inversely proportional to x."
Is he right? Explain.

x	1	2	3	4
y	10	8	6	4

$x \times y$: 10, 16, 18, 16

not the same, so not inverse

Answer No