

INVERSE VARIATION

RECALL: DIRECT VARIATION

A **DIRECT VARIATION** has the form

$$y = kx$$

where, $k \neq 0$.

The value k is the constant of variation.

INVERSE VARIATION

An **INVERSE VARIATION** has the form

$$xy = k \quad \text{or} \quad y = \frac{k}{x} \quad \text{or} \quad x = \frac{k}{y}$$

where, $k \neq 0$.

When one quantity increases, the other decreases proportionally. The value k is the constant of variation.

GUIDED EXAMPLE 1:

Find the constant of variation and use it to write a direct variation equation to represent the table below.

x	y
2	5
4	2.5
6	1.7
10	1.0
12	.83

GUIDED EXAMPLE 2:

Find the constant of variation and use it to write an inverse variation equation to represent the table below.

x	y
0.5	24
1	12
2	6
3	4
4	3

Determine if the relationship between the values in each table represents a direct variation, an inverse variation, or neither. Then, write an equation to model the direct and inverse variations.

1

x	y
0.25	144
5	8
10	4
20	2
40	1

2

x	y
5	28
7	14
4	7
10	2.8
14	2

3

x	y
2	18
3	27
5	45
9	81
50	90

4

x	y
0	3
1	6
2	12
3	24
4	48

5

x	y
2	5
6	15
10	25
14	35
24	60

6

x	y
2	50
4	25
5	20
50	50
50	2

Algebra With Pizzazz Inverse Variation

Rachel Sandford



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