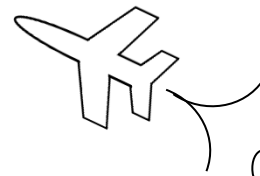# Math on the Fly!

NAME: _____   DATE: _____

Direct and Inverse Variation

Determine if each table represents a direct variation or inverse variation.
Find the constant of variation and write the equation of the relationship.

(The equation will be in the form $y = kx$ or $y = \frac{k}{x}$)

1.

x	y
2	6
5	15
7	21

2.

x	y
1	12
2	6
3	4

3.

x	y
8	4
10	5
14	7

4.

x	y
3	12
4	9
6	6

5.

x	y
0.6	3
1.5	7.5
1.8	9

6.

x	y
0.5	20
1.25	8
2.5	4

Solve each word problem below.

7.
y varies directly with x
If y = 28 when x = 7, what is y when x = 9?

8.
y varies inversely with x
If y = 2 when x = 9, what is x when y = 6?

9.
y varies directly with x
If x = 5 when y = 45, what is x when y = 36?

10.
y varies inversely with x
If x = 3 when y = 10, what is y when x = 15?

SOLUTIONS

1. Direct: k = 3
Equation: y = 3x

2. Inverse: k = 12
Equation: $y = \frac{12}{x}$ or xy = 12

3. Direct: k = 0.5 or 1/2
Equation: y = 0.5x or $y = \frac{1}{2}x$

4. Inverse: k = 36
Equation: $y = \frac{36}{x}$ or xy = 36

5. Direct: k = 5
Equation: y = 5x

6. Inverse: k = 10
Equation: $y = \frac{10}{x}$ or xy = 10

7. Equation: y = 4x
Answer: y = 36

8. Equation: $y = \frac{18}{x}$ or xy = 18
Answer: x = 3

9. Equation: y = 9x
Answer: x = 4

10. Equation: $y = \frac{30}{x}$ or xy = 30
Answer: y = 2