

# Algebra I

8-9

## Direct Variation

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Linear Equation-

Linear Function-

Quadratic Function-

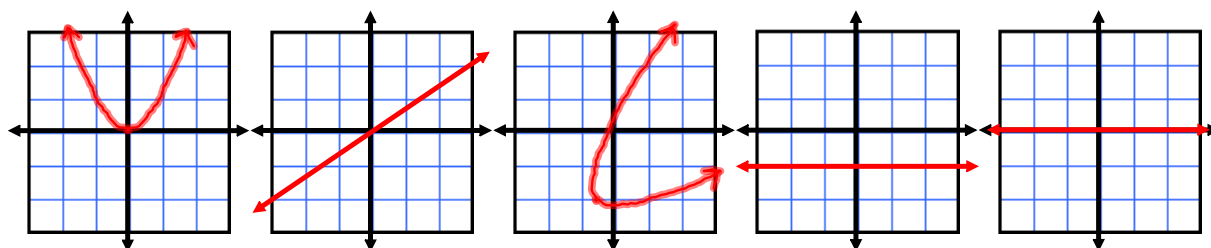
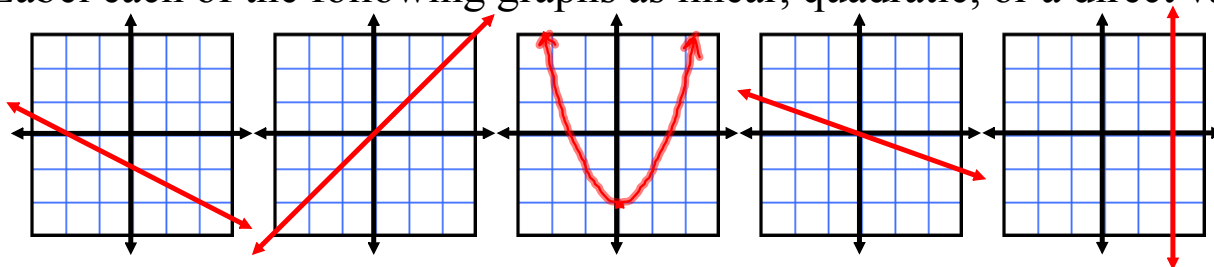
Direct Variation-

Constant of Variation-

In a direct variation, if the input ( ) is increasing,  
then the output ( ) is \_\_\_\_\_.

In a direct variation, if the input ( ) is decreasing,  
then the output ( ) is \_\_\_\_\_.

Label each of the following graphs as linear, quadratic, or a direct variati



Translate each of the following into symbols. Use  $k$  for the constant of variation.

- 1)  $j$  varies directly as  $p$ .
- 2) The number of meters is directly proportional to the number of yards.
- 3) The weight of an object varies directly as its length.

Find the constant of variation Write as a fraction in lowest terms and as a decimal rounded to the nearest thousandth.

- 4)  $y$  varies directly as  $x$ , and  $y = 35$  when  $x = 21$ .

Find the constant of variation  $k$ . Then write a general direct variation equation for the scenario. Write the constant as a fraction in lowest terms.

- 5) Seven days varies directly as one week.
- 6) Four cups is directly proportional to two pints.

Find the missing information

- 7)  $y$  varies directly as  $x$ , and  $x = 64$  when  $y = 48$ . Find  $y$  when  $x = 84$ .

- 8)  $a$  is directly proportional to  $b$ , and  $b = 77$  when  $a = 11$ . Find  $b$  when  $a = 15$ .

Write an equation for the following, then graph the equation.

- 9) The number of students enrolled in Algebra I varies directly as the number of students enrolled in Geometry. Last year, there were 51 Algebra I students, and this year there are 34 Geometry students.

Assignment:  
Handout 1-31 all

