

Chapter 7 (p. 357)

constant of variation

The constant k in direct and inverse variation equations.

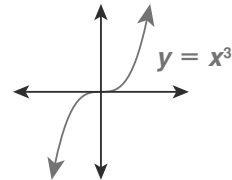
$$y = 5x$$

↑
constant of variation

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cubic function

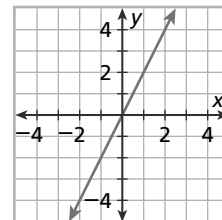
A polynomial function of degree 3.



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direct variation

A relationship between two variables in which the data increase or decrease together at a constant rate.



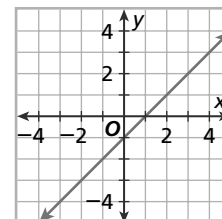
$$y = 2x$$

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linear function

A function whose graph is a straight line.

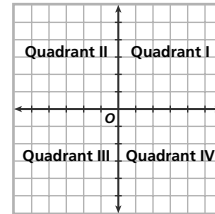
$$y = x - 1$$



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quadrant

The x - and y -axes divide the coordinate plane into four regions. Each region is called a quadrant.



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quadratic function

A function of the form $y = ax^2 + bx + c$, where $a \neq 0$.

$$y = x^2 - 6x + 8$$

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rate of change

A ratio that compares the amount of change in a dependent variable to the amount of change in an independent variable.

The cost of mailing a letter increased from 22 cents in 1985 to 25 cents in 1988. During this period, the rate of change was

$$\frac{\text{change in cost}}{\text{change in years}} = \frac{25 - 22}{1988 - 1985} = \frac{3}{3} = 1 \text{ cent per year.}$$

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vertical line test

A test used to determine whether a relation is a function. If any vertical line crosses the graph of a relation more than once, the relation is not a function.

