Chapter 8 (p. 569, 8-1)

constant of variation

constant of variation: The constant *k* in direct, inverse, joint, and combined variation equations.

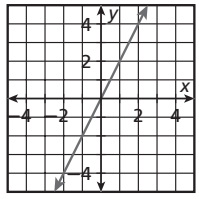
$y = 5x$

constant of variation

Chapter 8 (p. 569, 8-1)

direct variation

direct variation: A linear relationship between two variables, *x* and *y*, that can be written in the form $y = kx$, where *k* is a nonzero constant.

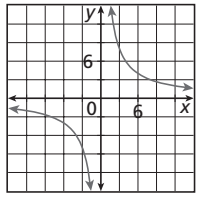


$y = 2x$

Chapter 8 (p. 593, 8-4)

discontinuous function

discontinuous function: A function whose graph has one or more jumps, breaks, or holes.



Chapter 8 (p. 600, 8-5)

extraneous solution

extraneous solution: A solution of a derived equation that is not a solution of the original equation.

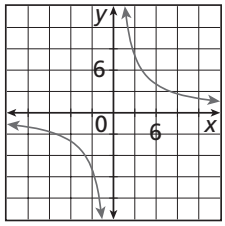
To solve $\sqrt{x} = -2$, square both sides; $x = 4$.

Check **$\sqrt{4} = -2$ is false; so 4 is an extraneous solution.**

Chapter 8 (p. 570, 8-1)

inverse variation

inverse variation: A relationship between two variables, x and y, that can be written in the form $y = \frac{k}{x}$, where k is a nonzero constant and $x \neq 0$.



$$y = \frac{24}{x}$$

Chapter 8 (p. 628, 8-8)

radical equation

radical equation: An equation that contains a variable within a radical.

$$\sqrt{x + 3} + 4 = 7$$

Chapter 8 (p. 611, 8-6)

rational exponent

rational exponent: An exponent that can be expressed as $\frac{m}{n}$ such that if m and n are integers, then
$b^{\frac{m}{n}} = \sqrt[n]{b^m} = \left(\sqrt[n]{b}\right)^m$.

$$4^{\frac{3}{2}} = \sqrt{4^3} = \sqrt{64} = 8$$
$$4^{\frac{3}{2}} = \left(\sqrt{4}\right)^3 = 2^3 = 8$$