

2 Graphing Linear Equations and Linear Systems

2.1 Graphing Linear Equations

2.2 Slope of a Line

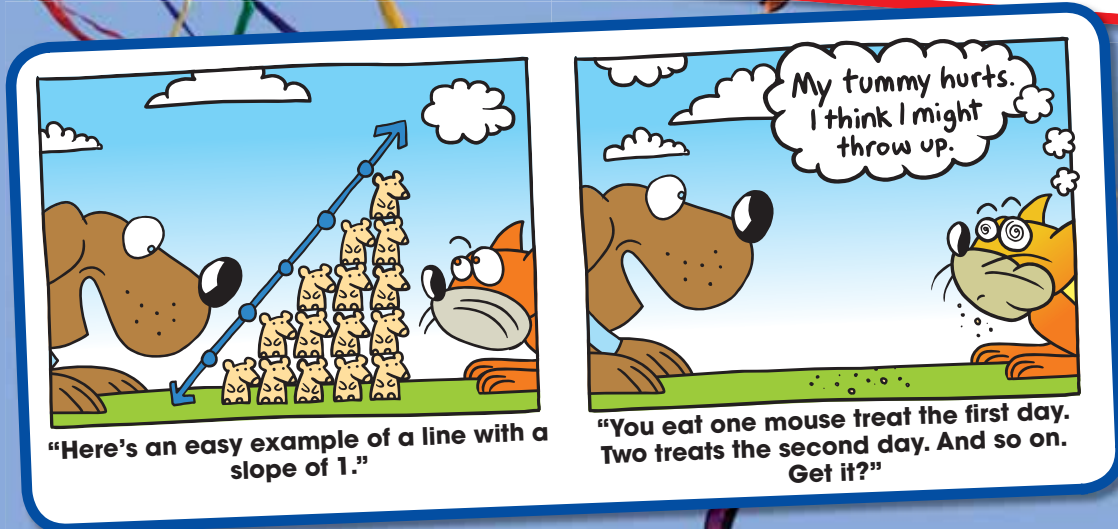
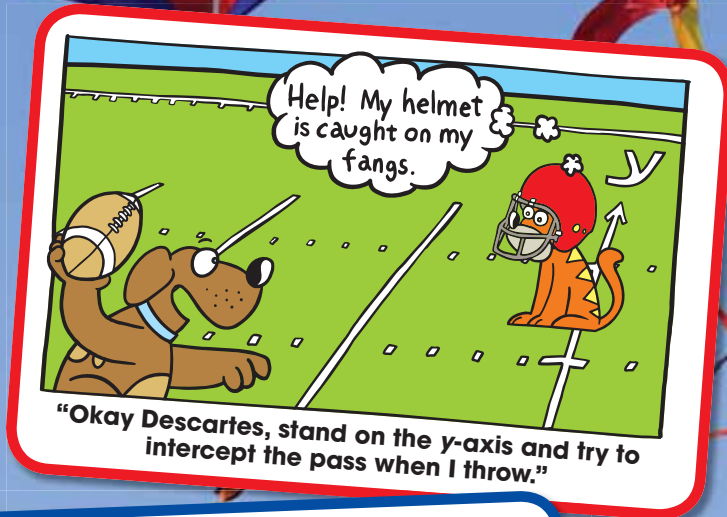
2.3 Graphing Linear Equations in Slope-Intercept Form

2.4 Graphing Linear Equations in Standard Form

2.5 Systems of Linear Equations

2.6 Special Systems of Linear Equations

2.7 Solving Equations by Graphing



What You Learned Before

Evaluating Expressions Using Order of Operations

Example 1 Evaluate $2xy + 3(x + y)$ when $x = 4$ and $y = 7$.

$$\begin{aligned} 2xy + 3(x + y) &= 2(4)(7) + 3(4 + 7) \\ &= 8(7) + 3(4 + 7) \\ &= 56 + 3(11) \\ &= 56 + 33 \\ &= 89 \end{aligned}$$

Substitute 4 for x and 7 for y .

Use order of operations.

Simplify.

Multiply.

Add.

Try It Yourself

Evaluate the expression when $a = \frac{1}{4}$ and $b = 6$.

- $-8ab$
- $16a^2 - 4b$
- $\frac{5b}{32a^2}$
- $12a + (b - a - 4)$

Plotting Points

Example 2 Write the ordered pair that corresponds to Point U .

Point U is 3 units to the left of the origin and 4 units down. So, the x -coordinate is -3 and the y -coordinate is -4 .

∴ The ordered pair $(-3, -4)$ corresponds to Point U .

Example 3 Which point is located at $(5, -2)$?

Start at the origin. Move 5 units right and 2 units down.

∴ Point T is located at $(5, -2)$.

Try It Yourself

Use the graph to answer the question.

- Write the ordered pair that corresponds to Point Q .
- Write the ordered pair that corresponds to Point P .
- Which point is located at $(-4, 0)$?
- Which point is located in Quadrant II?

