

Linear Relations and Functions

What You'll Learn

Scan the text in the lesson. Write two facts you learned about linear functions and relations as you scanned the text.

1. _____

2. _____

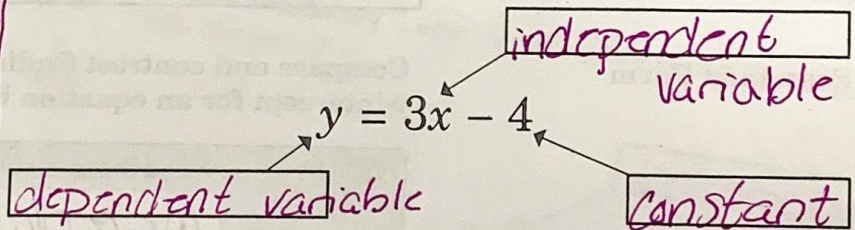
Active Vocabulary

~~independent variable~~

~~dependent variable~~

constant

Review Vocabulary Label the diagram using the words at the left. (Lesson 2-1)



New Vocabulary Fill in each blank with the correct term or phrase.

linear relation ▶ a relation in which the graph of the relation is a straight line

linear equation ▶ an equation with exponents no greater than one, and which does not contain the operation of division of a constant by a variable

linear function ▶ a function whose ordered pairs satisfy a linear function of the form $f(x) = m x + b$ slope intercept form $m = \text{slope}$ $b = y\text{-intercept}$

standard form ▶ form of a linear equation written as $Ax + By = C$ where A, B, C are integers and have a greatest common factor of one

y-intercept ▶ the y-coordinate of the point at which a graph crosses the y-axis $(0, y)$

x-intercept ▶ the x-coordinate of the point at which a graph crosses the x-axis $(x, 0)$

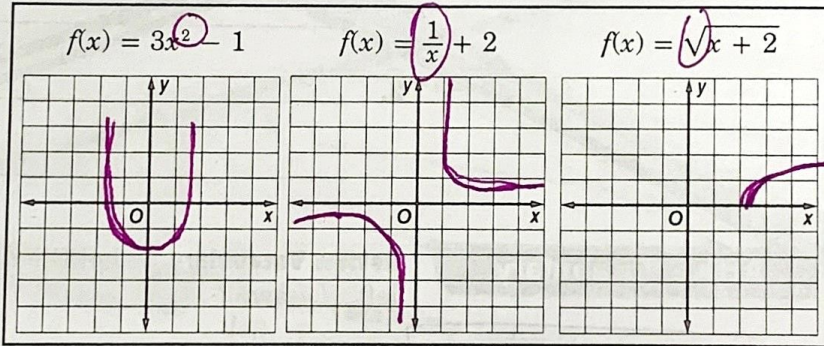
(continued)

Main Idea

Details

Linear Relations and Functions

Circle the characteristic of each function that makes it nonlinear. Sketch the graph of each function to show that it is nonlinear.



Standard Form

Compare and contrast finding the x -intercept and the y -intercept for an equation by filling in the chart below.

	Finding x -intercept	Finding y -intercept
What is the same?	We replace x or y with zero	→
What is different?	$(x, 0)$ $y = 0$ $Ax + B(0) = C$ $0 = mx + b$	$(0, y)$ $x = 0$ $A(0) + By = C$ $y = m(0) + b$

Helping You Remember

Your friend thinks that she should let $x = 0$ to find the x -intercept. How would you explain to her how to remember the correct method?