

NAME: _____

UNIT 3 • LINEAR AND EXPONENTIAL FUNCTIONS

Lesson 4: Analyzing Linear and Exponential Functions

Practice 3.4.1: Graphing Linear Functions

Use what you know about linear functions to complete the following problems.

1. Given the function $f(x) = -\frac{4}{3}x + 4$, use the slope and y -intercept to graph the function. Identify the x - and y -intercepts.
2. Given the function $f(x) = \frac{2}{7}x + 2$, use the slope and y -intercept to graph the function. Identify the x - and y -intercepts.
3. Given the table of values, graph the function and identify the x - and y -intercepts.

x	$f(x)$
-3	10
0	5
3	0
6	-5

4. Given the table of values, graph the function and identify the x - and y -intercepts.

x	$f(x)$
-14	-2
-7	0
0	2
7	4

5. Given the function $f(x) = -\frac{2}{3}x + 2$, solve for the x - and y -intercepts. Use the intercepts to graph the function.
6. Given the function $f(x) = \frac{5}{4}x - 5$, solve for the x - and y -intercepts. Use the intercepts to graph the function.

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7. Kaylee is selling candles to raise money for her lacrosse team. The large candles sell for \$25 each and the small candles sell for \$10 each. She needs to raise \$600. Write a function to represent how many of each type of candle Kaylee needs to sell. Draw the graph of the function. If she sells only large candles, how many candles does she need to sell? If she sells only small candles, how many candles does she need to sell?
8. Jerome knits scarves and hats for charity. Scarves require 4 skeins of yarn and hats require 2 skeins of yarn. Jerome has 24 skeins of yarn. Write a function to represent the combination of scarves and hats he can knit. Draw the graph of the function. If Jerome knits only scarves, how many can he knit? If he knits only hats, how many can he knit?
9. A farmer raises goats and cows. Each goat requires 400 square feet of grazing area and each cow requires 1,200 square feet of grazing area. The farmer has 36,000 square feet for grazing area. Write a function to represent the combination of goats and cows that the farmer can raise. Use technology to graph the function. If the farmer raises only cows, how many can he raise? If the farmer raises only goats, how many can he raise?
10. The graph of a function is shown below. Write a scenario that could be represented by the graph.

