

Determining the Meaning of Intercepts

Name:

Date:

Vocabulary Review:

In your own words, define each of the following vocabulary terms.

- Rate of Change
- Slope
- y -intercept
- x -intercept
- Linear Function
- Function

Apply New Learning:

1. Maria has a cell phone plan that uses the equation $y = 0.55x + 14$, where y represents the base plan cost and x represents the number of minutes used, to determine the amount of her cell phone bill each month, before taxes and fees.

What is the base cost of the plan (y -intercept) before minutes are used?

How many minutes used does the base cost represent (x -intercept), before additional minutes are used?

2. Subkhir has a car loan, and he uses the equation $y = 7,500 - 250x$, where x represents the number of months that he has been paying the loan and y represents the remaining balance on the loan, to determine his remaining loan balance.

What was the initial amount of Subkhir's car loan (y -intercept)?

In how many months will the remaining balance be \$0 (x -intercept)?

3. Nimitha buys fruit at her local farmer's market. This Saturday, oranges cost \$2 per pound and cherries cost \$3 per pound. She has \$12 to spend on fruit. Nimitha can use the equation $2x + 3y = 12$, where x represents the number of pounds of oranges and y represents the number of pounds of cherries, to determine how many pounds of each fruit she may purchase.

If Nimitha buys only oranges, how many pounds can she buy (x -intercept)?

If she buys only cherries, how many pounds can she buy (y -intercept)?