**Practice with Standard Form and Slope-Intercept Form**

1. In its most recent game, the North High School girls’ basketball team scored 72 points not including foul shots. A sports writer wonders how many 3 pointers and how many 2 pointers could have been made.
2. Let *x* represent the number of 2-point goals and *y* the number of 3-point goals. Make a table showing possible combinations that give a total of 72 points.

|  |  |
| --- | --- |
| *x* | *y* |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Plot these ordered pairs on a graph.



1. Draw a line through the points you have plotted.
2. What is an equation for the line?
3. What is the *x*-intercept? What is the meaning of the *x*-intercept?
4. What is the *y*-intercept? What is the meaning of the *y*-intercept?
5. What is the slope? What is the meaning of the slope?
6. Does every point on the line represent a possible combination of 2-point and 3-point goals? Explain.
7. Rewrite this equation in slope-intercept form.
8. Confirm that the slope (*m*) and *y-*intercept (*b*) in slope-intercept form are the same as you obtained earlier.
9. Mohammed and his four friends begin a long hike with 225 pounds of food. They plan to eat a total of 12 pounds of food per day.
10. Define the variables and write an equation to show how the amount of food remaining is related to the number of days they have been on the hike.
11. What is the *y*-intercept and what does it mean in this situation?
12. What is the slope and what does it mean in this situation?
13. Use the equation to determine when the hikers will run out of food.
14. The owner of a candy store decides to make a mixture of nuts to sell. He uses peanuts and cashews. He would like the mixture to weigh five pounds and needs to know what possible combinations he can use.
15. Let *x* represent the weight of the peanuts and *y* represent the weight of the cashews. Make a table showing possible combinations of nuts.

|  |  |
| --- | --- |
| *x* | *y* |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Plot these ordered pairs on a graph.



1. Draw a line through the points you have plotted.
2. Write an equation of the line.
3. Use the equation to fill in the table and find the *x* and *y* intercepts.

|  |  |
| --- | --- |
| *x* | *y* |
|  | 0 |
| 0 |  |

1. What is the *x*-intercept? What is the meaning of the *x*-intercept?
2. What is the *y*-intercept? What is the meaning of the *y*-intercept?
3. What is the slope and what does it mean in this situation?
4. Does every point on the line between the two intercepts represent a possible combination of peanuts and cashews? Explain.
5. Rewrite the equation of this line in slope-intercept form.