1. Copy equation number 1 in the space below.

2. Identify the slope (m) and the y-intercept (b) of equation 1.

(You may need to convert it to y = mx +b).

3. Write the slope (m) in the space provided.

4. Write the y intercept (b) in the space provided.

5. Use a red crayon to graph equation 1 on the graph.

6. Repeat all of the steps above with equation 2. Use a blue crayon to graph the equation.

7. Answer the questions in complete sentences.

Station 1

|  |  |  |
| --- | --- | --- |
|  | Equation 1 | Equation 2 |
| Equation |  |  |
| Slope intercept form  y = mx + b |  |  |
| Slope (m) |  |  |
| Y – intercept (b) |  |  |
| Graph | http://accelerateu.org/resourceguides/Math/m8_44b.gif | |

1. Do the two lines you graphed intersect (touch)?

If yes identify the ordered pair (x, y) where they meet \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If no, describe the relationship of the two lines. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Compare the slopes of equation 1 and equation 2. Are the slopes the same, different or opposite reciprocals?

3. Compare the y- intercepts of equation 1 and equation 2. Are the y intercepts the same or different?

|  |  |  |
| --- | --- | --- |
|  | Equation 1 | Equation 2 |
| Equation |  |  |
| Slope intercept form  y = mx + b |  |  |
| Slope (m) |  |  |
| Y – intercept (b) |  |  |
| Graph | http://accelerateu.org/resourceguides/Math/m8_44b.gif | |

Station 2

1. Do the two lines you graphed intersect (touch)?

If yes identify the ordered pair (x, y) where they meet \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If no, describe the relationship of the two lines. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Compare the slopes of equation 1 and equation 2. Are the slopes the same, different or opposite reciprocals?

3. Compare the y- intercepts of equation 1 and equation 2. Are the y intercepts the same or different?

|  |  |  |
| --- | --- | --- |
|  | Equation 1 | Equation 2 |
| Equation |  |  |
| Slope intercept form  y = mx + b |  |  |
| Slope (m) |  |  |
| Y – intercept (b) |  |  |
| Graph | http://accelerateu.org/resourceguides/Math/m8_44b.gif | |

Station 3

|  |  |  |
| --- | --- | --- |
|  | Equation 1 | Equation 2 |
| Equation |  |  |
| Slope intercept form  y = mx + b |  |  |
| Slope (m) |  |  |
| Y – intercept (b) |  |  |
| Graph | http://accelerateu.org/resourceguides/Math/m8_44b.gif | |

Station 4

1. Do the two lines you graphed intersect (touch)?

If yes identify the ordered pair (x, y) where they meet \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If no, describe the relationship of the two lines. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Compare the slopes of equation 1 and equation 2. Are the slopes the same, different or opposite reciprocals?

3. Compare the y- intercepts of equation 1 and equation 2. Are the y intercepts the same or different?

Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | When the lines Intersect | When the lines are Parallel | When the lines are the Same | When the lines are perpendicular |
| Describe the relationship of the slope of the two lines… |  |  |  |  |
| Describe the relationship of the y-intercept of the two lines… |  |  |  |  |

Predict how each pair of lines will look when graphed.

1. y = 2x + 5

Y = -1/2x – 2

I predict the lines will\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. Y = 3x + 15

-3x + y = 15

I predict the lines will\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Y = 3x + 5

y = 3x - 7

I predict the lines will\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.