

Name: _____

Date: _____

Linear Equations and the TI-Navigator

The first four random integers are for the teacher to generate. All students should write down the same two points.

Use the random integer feature to find 4 numbers between -10 and 10. Let these numbers represent the coordinates of 2 points.

Write down the 2 points.

Point 1: (_____, _____) Point 2: (_____, _____)

Find the slope of the line that goes through these two points. (you must show your work)

Write an equation in Point-Slope form for the line that goes through these two points.

Students need to be in navigator application for the quick polls.

QP: True or False -- The equation $y = -4 - 1.5(x + 8)$ has a slope of -4

Go to the activity center of the navigator application and enter your equation into y1.

Does your line go through the two points?

If not, go back and find the equation that does.

Rewrite your point-slope equation in intercept form. (show all work)

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QP: What is the y-intercept of the following equation: $y = 7 - 4x$

- a. (0, -4)
- b. (7, 0)
- c. (-4, 0)
- d. (0, 7)

QP: What property did you use to rewrite your equation?

- a. Associative
- b. Commutative
- c. Distributive
- d. Multiplicative

Go to the activity center of the navigator application and enter your equation into y1.

Do you see you new line?

Why or why not?

When students generate a random integer, they may need to generate a few random numbers first so that they do not all end up with the same number.

Use the random integer feature of your calculator to generate 1 random integer between -10 and 10.

What is this number? _____

Now find another point on the line by using the number you just generated as the x-value for the point. (show all you work)

What is your point? (_____, _____)

Get back into the activity center, and enter this point when prompted.

Points should be entered as a list. x-values in L1 and y-values in L2.

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Does your point appear on the line? _____

If not, go back and re-find the point using your x-value.

QP: *True or False* – To find the y-value of your point you had to undo the order of operations.

Write an equation in point-slope form using the point you just found.

In the activity center, enter this equation into y1.

What do you notice?

Rewrite your point-slope equation in intercept form. (show all work)

What do you notice about your equation in intercept form?

Generate another random integer between -10 and 10.

What is this number? _____

Now find another point on the line by using the number you just generated as the y-value for the point. (show all your work)

What is your point? (_____, _____)

Get back into the activity center, and enter this point when prompted.

Points should be entered as a list. x-values in L1 and y-values in L2.

Does your point appear on the line? _____

If not, go back and re-find the point using your y-value.

Write an equation in point-slope form using the point you just found.

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In the activity center, enter this equation into y1.

What do you notice?

Rewrite your point-slope equation in intercept form. (show all work)

QP: Point-slope equations that represent the same line have the same intercept equation.

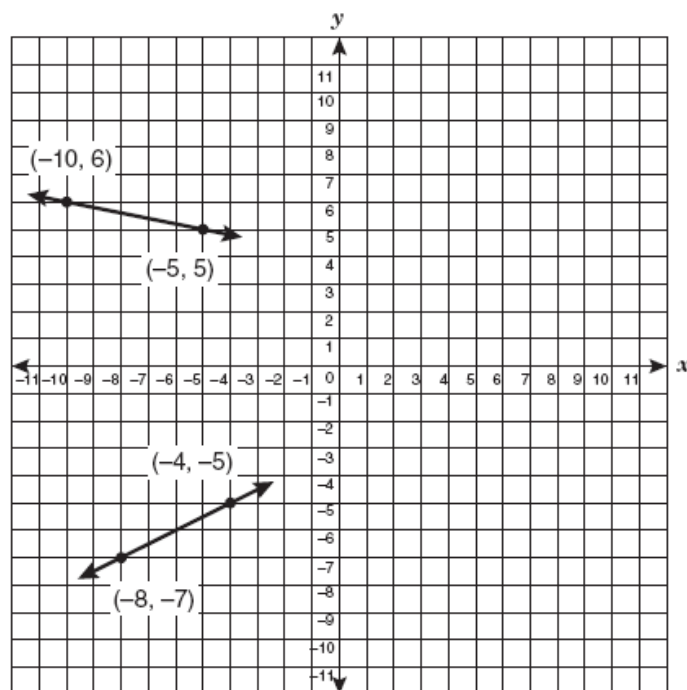
Always

Sometimes

Never.

Check for Understanding: The following are released TAKS question/s to check for students understanding of the lesson.

1. The graph of a system of linear equations is shown below.



Answer: J

Which of the following is the solution to this system of linear equations?

- F $(0, 4)$
- G $(8, 1)$
- H $(0, -3)$
- J $(10, 2)$

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2. Which equation represents the line that passes through the points $(-1, 4)$ and $(3, 2)$?

Answer: A

F $y = -\frac{1}{2}x + \frac{7}{2}$

G $y = -\frac{1}{2}x + \frac{9}{2}$

H $y = -2x + 7$

J $y = -2x + 3$