

# Activator

What is the equation of every line?

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Lesson 4.3

$$Y = MX + B$$

What is the equation of a line through  $(0, -2)$  and has a slope of 3?

$$M = 3 \text{ and } B = -2$$

$$Y = 3X - 2$$

# Today's Objective

## Unit 4 Lesson 3

Students will be able to find the slope algebraically between two points.





# Today's New Vocab (1 of 4)

Make a table and determine the **slope**.

What is **the slope** between points (0, 1) and (2, 5) ?

$$\frac{\text{change in } y}{\text{change in } x} = \text{Slope}(M)$$

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$$\frac{+4}{2} = 2$$

+2

x	y or f(x)
0	1
2	5

+4

# Today's New Vocab (2 of 4)

Determine the **y-intercept** through (0,1) & (2,5).

Substitute M.

$$M = 2$$

Substitute to find B.

Use either  
point (2, 5).

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$$Y = MX + B$$

$$Y = (2)X + B$$

$$(5) = (2)(2) + B$$

$$5 = 4 + B$$

$$-4 = -4$$

$$1 = B$$

# Today's New Vocab (3 of 4)

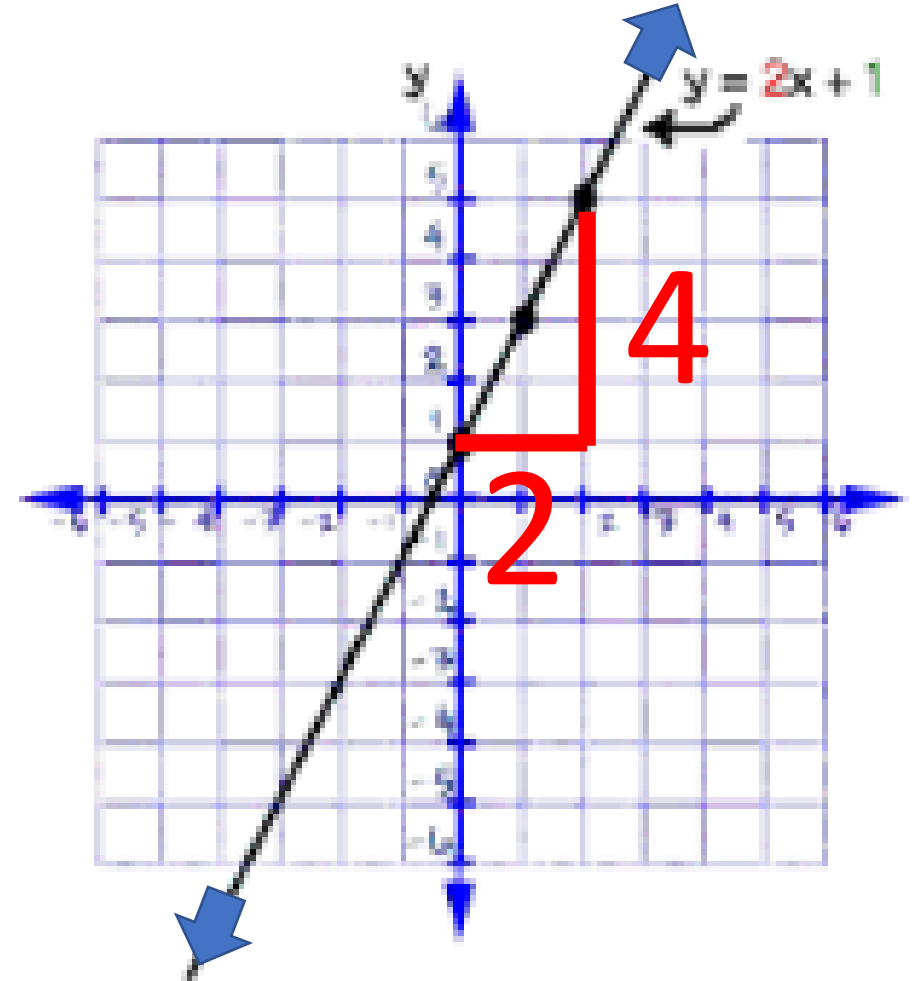
What is the y-intercept (B) ?

$$(0, B) \quad (0, 1) \quad B = 1$$

What is the slope (M) ?

$$M = \frac{+4}{2} = 2$$

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What is the equation of *this* line?  $Y = 2x + 1$

# Today's New Vocab (4 of 4)

What is the slope of a line that passes through the points  $(-1, -2)$  and  $(2, 10)$ ?

- Make a Table

-  $\frac{\text{change in } y}{\text{change in } x} = \text{Slope}$

- Determine the slope

x	y or f(x)
-1	-2
2	10

+3

+12

$$M = \frac{+12}{+3} = 4$$

# Work Period

Write the equation which represents the line that passes through the points  $(-1, -2)$  and  $(2, 10)$ .

- Substitute  $(2, 10)$
- Find the  $y$ -intercept  $B$
- Substitute Slope and  $Y$ -intercept into  $Y = MX + B$

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$$Y = MX + B$$

$$Y = (4)X + B$$

$$(10) = (4)(2) + B$$

$$10 = 8 + B$$

$$-8 \quad -8$$

$$2 = B$$

$$Y = 4X + 2$$



# Group Work Questions

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Lesson 4.3

Directions: All groups, please do all of the questions. Use your notes from last class to help you. [Ask 2 people before you ask me.]

Yesterday, we did Lesson 4.3 Notes.

1<sup>st</sup> Stop @ 8:16

\*One person from each group will present one question.

# Exit Ticket

Write the equation of a line through  $(0, -6)$  &  $(2, 4)$ .

Equation of every line  $Y = MX + B$

x	y
0	-6
2	4

+2

+10

Equation of  
this line

$$Y = 5X - 6$$

$$M = \frac{+10}{+2} = 5$$

$$B = -6$$





# Lesson 4.3 Game

**NOT IN PACKET  
Each correct  
answer gets \$3.**

- \* Get both sheets from the table.
- \* Pick any question to complete.
- \* Have me check your work.
- \* If it is correct, roll the dice.
- \* Put an “X” where you land on the game board.
- \* Show all work on the “Student Work” sheet.