April 26, 2021

7th Grade
April 26, 2021

Today we will:

-Review Friday's video notes

-Do Reteach WS together

-Begin HW

-Work in ALEKS on time and topics/ organize binder/ study if time

HOMEWORK:

HW Practice WS

ALEKS time and topics assignment due TONIGHT

7L: Test and binder check Wednesday

7R: Test and binder check Thursday

Task #1: Check completed notes/HW and put in notebook if it is not already.

Slope-Intercept Form Video Notes, Ch9 Lesson 4, April 26

Slope-Intercept Form

$y = mx + b$

- m: slope — rise/run $= \frac{y_2 - y_1}{x_2 - x_1}$
- b: y-intercept (where line crosses the y-axis. $x = 0$)

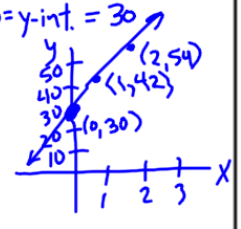
Always solve your equation for y!

Slope is +, the Line goes up
Slope is -, Line goes down

Graph $y = 12x + 30$.

$m = 12 = \frac{\text{rise}}{\text{run}} = \frac{12}{1}$

b = y-int. = 30



The sign in front of "b" always goes with the y-intercept making it positive or negative.

What is the slope and y-intercept?

$y = \frac{1}{4}x - 6$

$m = \frac{1}{4}$

$b = -6$

$y = 3x + 1$

Slope = $m = 3$

$b = 1$

$y = -2x$

$m = -2$

$b = 0$

Change to Slope-intercept form.

$6x + y = -3 + 6x$

$-6x \quad -6x$

$y = -6x - 3$

$m = -6 \quad b = -3$

$y - 5 = -x$

$+5 \quad +5$

$y = -x + 5$

$m = -1 \quad b = 5$

$3x - 2y = 6$

$-3x \quad -3x$

$\frac{-2y}{-2} = \frac{-3x + 6}{-2}$

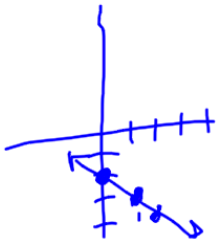
$y = \frac{3}{2}x - 3$

$m = \frac{3}{2} \quad b = -3$

Graph $y = -x - 2$.

$m = -1 \quad b = -2$

$\frac{\text{rise}}{\text{run}} = \frac{-1}{1}$



A kite is flying 60 ft. in the air but is falling. The altitude of the kite can be represented by $y = -x + 60$, where x is time in seconds.

1) Graph

2) Slope represents: How much falling (ft/s)

3) y-intercept represents: altitude of kite at the start

Extend Page

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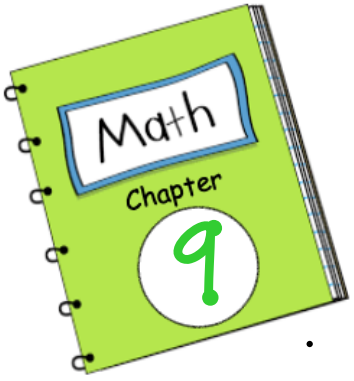

TITLE: Functions

Date	Lesson	Topic/Assignment
4/12	1	Functions Video Notes
4/13	1	HOMEWORK: Pg 387 WS
4/13	1	CLASSWORK: Skills Practice WS
4/14	2	Rep of Functions Video Notes and In-Class Notes
4/15	2	HOMEWORK: Pg 393 WS
4/15	2	HOMEWORK: Skills Practice WS
4/19	2	CLASSWORK: Skills Practice WS
4/20	3	Slope Video Notes
4/21	3	HOMEWORK: Reteach and HW Practice WS
4/22	4	Direct Variation Video and Class Notes
4/23	4	HOMEWORK: Skills WS
4/23	5	Slope-Intercept Form Video Notes
4/26	5	HOMEWORK: Reteach and HW Practice WS
4/28	ALL	Unit 9 Study Guide

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Lesson 5 Reteach

Slope-Intercept Form

An equation of the form $y = mx + b$, where m is the slope and b is the y-intercept, is in **slope-intercept form.**

Example 1: State the slope and the y-intercept of the graph of $6x - y = 7$.

Write the equation in slope-intercept form.

$6x - y = 7$	Write the original equation.
$-6x \quad -6x$	Subtract $6x$ from each side.
$-y = 7 - 6x$	Simplify.
$-y = -6x + 7$	Write in slope-intercept form.
$y = 6x - 7$	Divide both sides by –1 to remove the negative coefficient from y.
$y = mx + b$	$m = 6$, $b = -7$

The slope of the graph is 6 and the y-intercept is –7.

Example 2: Graph $y = -4x - 3$ using the slope and y-intercept.

Step 1 Find the slope and y-intercept.

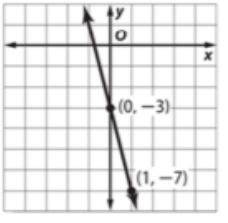
slope = –4 y-intercept = –3

Step 2 Graph the y-intercept point at (0, –3).

Step 3 Write the slope as $\frac{-4}{1}$. Use it to locate a second point on the line.

$m = \frac{-4}{1}$ ← change in y: down 4 units
← change in x: right 1 unit

Step 4 Draw a line through the two points and extend the line.



Exercises

State the slope and the y-intercept of the graph of each equation.

1. $y = 4x + 12$ m= 4 b=12

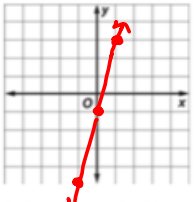
2. $y = x - 9$ m=1 b=-9

3. $12x = y - 9$ m=12 b=9 $+9 \quad +9$ $12x+9 = y$

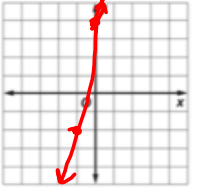
4. $y - 8x = 21$ m=8 b=21 $+8x \quad +8x$ $y = 8x + 21$

Graph each equation using the slope and y-intercept.

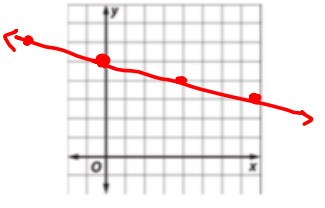
5. $y = 4x - 1$



6. $y = 6x + 4$ $y = 12x + 9$



7. $y = -\frac{1}{4}x + 5$



$\frac{-6}{-1} = 6$ $\frac{-1}{4}$ or $\frac{1}{-4}$

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HOMEWORK

Name _____

Unit ___ Lesson _____ Due Date _____

Lesson 5 Homework Practice

Slope-Intercept Form

*For #2 and #3, you need to subtract the x term on both sides (like I did in the video) so that you have the form y = mx + b.

State the slope and the *y*-intercept of the graph of each line.

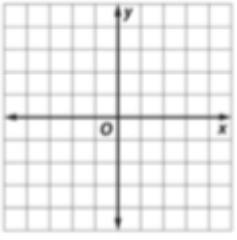
1. $y = -\frac{1}{2}x + \frac{3}{4}$

2. $3x + y = 8$

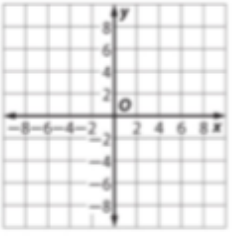
3. $y - 4x = 6$

Graph each equation using the slope and *y*-intercept.

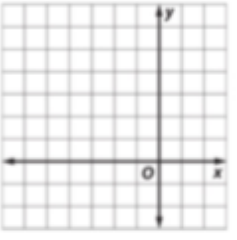
4. $y = \frac{3}{4}x - 3$



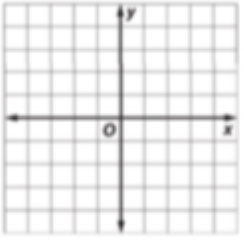
5. $y = \frac{5}{6}x + 1$



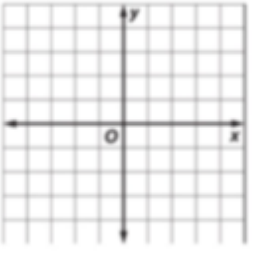
6. $y = x + 5$



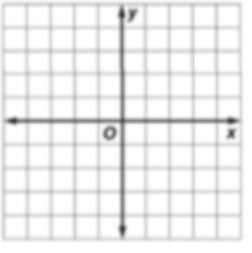
7. $y = -\frac{1}{2}x - 4$



8. $y = x - 4$

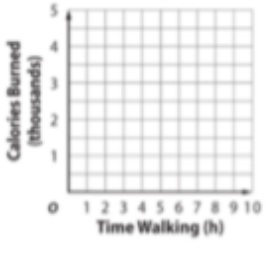


9. $y = -6x + 3$



10. A person weighing 150 pounds burns about 320 Calories per hour walking at a moderate pace. Suppose that the same person burns an average of 1500 Calories per day through basic activities. The total Calories *y* burned by that person can be represented by the equation $y = 320x + 1500$, where *x* represents the number of hours spent walking.

a. Graph the equation using the slope and *y*-intercept.



b. State the slope and *y*-intercept of the graph of the equation and describe what they represent.