

ALGEBRA 460/461
CHAPTER 5: WRITING LINEAR EQUATIONS

Day 0 **CHAPTER 4 TEST**

Homework: 🎬 5.1 SLOPE-INTERCEPT FORM (PART 1)

Day 1 **Classwork:** Warm Up and **Classwork:** Slope-Intercept Form

Homework: 🎬 5.1 SLOPE-INTERCEPT FORM (PART 2)

Day 2 **Classwork:** Warm Up and **Classwork:** Slope-Intercept Form

Homework: 🎬 5.1 SLOPE-INTERCEPT FORM GIVEN A GRAPH

Day 3 **Classwork:** Warm Up and **Classwork:** Slope-Intercept Form Given a Graph

Homework: 🎬 5.4 HORIZONTAL & VERTICAL LINES

Day 4 **Classwork:** Warm Up and **Classwork:** Horizontal & Vertical Lines

Homework: 😊 **NONE!**

Day 5 **Classwork:** REVIEW of SLOPE-INTERCEPT FORM

Homework: 😊 **STUDY! STUDY! STUDY!**

Day 6 **Classwork:** **QUIZ ON DAYS 1-5**



QUIZ!

Homework: 🎬 5.2 POINT-SLOPE FORM

Day 7 **Classwork:** Warm Up and **Classwork:** Point-Slope Form

Homework: 🎬 5.3 WRITING LINEAR EQUATIONS GIVEN 2 POINTS (PART 1)

Day 8 **Classwork:** Warm Up and **Classwork:** Writing Linear Equations Given 2 Points

Homework: 🎬 5.3 WRITING LINEAR EQUATIONS GIVEN 2 POINTS (PART 2)

Day 9 **Classwork:** Warm Up and **Classwork:** Writing Linear Equations Given 2 Points

Homework: 🎬 5.6 WRITING EQUATIONS OF PARALLEL LINES

Day 10 **Classwork:** Warm Up and **Classwork:** Writing Equations of Parallel Lines

Homework: 🎬 5.6 WRITING EQUATIONS OF PERPENDICULAR LINES

Day 11 **Classwork:** Warm Up and **Classwork:** Writing Equations of Perpendicular Lines

Homework: 😊 **NONE!**

Day 12 Classwork: REVIEW of POINT-SLOPE FORM

Homework: NO VIDEO! STUDY FOR QUIZ!!

quiz

Day 13 QUIZ ON DAYS 7-1

Homework:  5.5 MODELING LINEAR EQUATIONS

Day 14 Classwork: Warm Up and Classwork: Modeling Linear Equations

Homework: NO VIDEO!


Day 15 Classwork: Classwork: Modeling Linear Equations

Homework: NO VIDEO!

Day 16 Classwork: Classwork: Chapter 5 Review

Homework: STUDY YOUR  OUT!!

Day 17 CHAPTERS 5 TEST

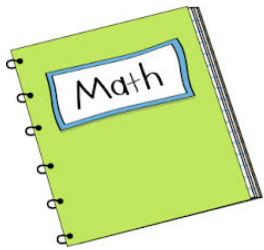
Homework:  6.1 SOLVING INEQUALITIES



SNAPPLE FACT #366

THE CENTERS OF SOME GOLF BALLS CONTAIN HONEY.



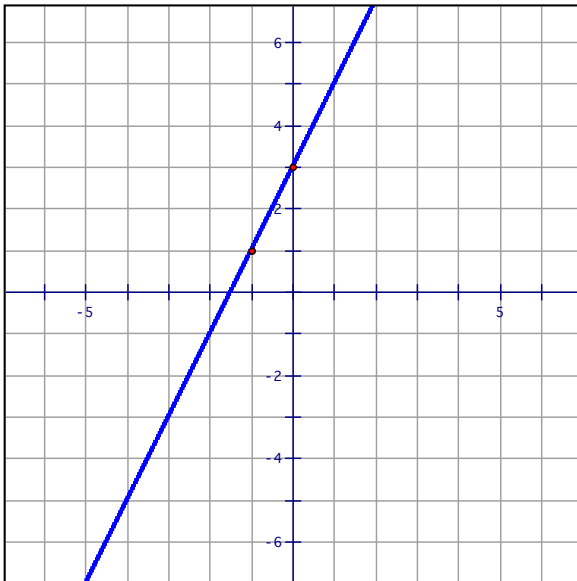


5.1 SLOPE-INTERCEPT FORM (PART 1)



Today's Target: To write the equation of line in slope-intercept form.

OVERALL GOAL: _____



Different forms of SLOPE:

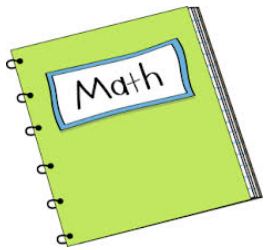
Different forms of Y-INTERCEPT:

Write in slope-intercept form the equation of the line described below.

1) slope = -2 , y-intercept = 3

2) $m = -1$, $b = 9$

3) $m = 6$, $(0, -7)$



5.1 SLOPE-INTERCEPT FORM (PART 2)



Today's Target: To write the equation of line in slope-intercept form.

Write in slope-intercept form the equation of the line that passes through the two points.

1) $(0, 4)$ and $(2, 5)$

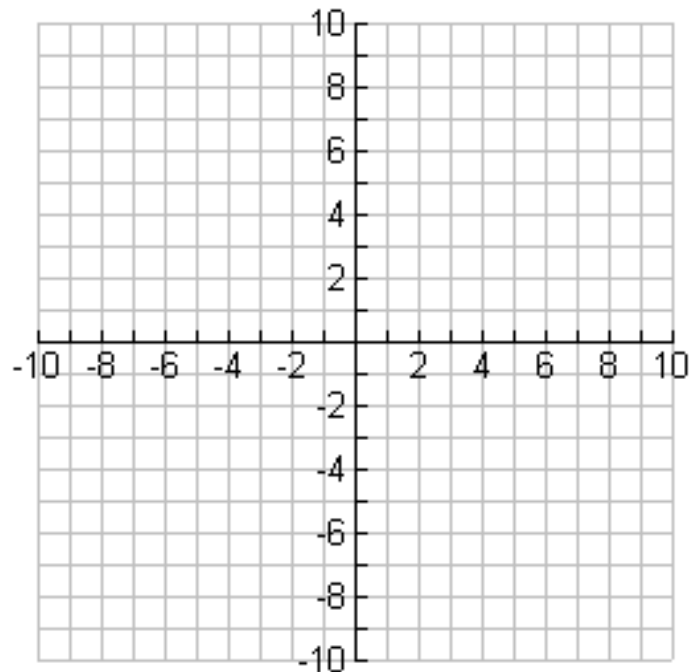
2) $(0, 3)$ and $(1, 0)$

GOAL:

STEP 1: Find the slope (m).

STEP 2: Identify the y-intercept $(0, b)$.

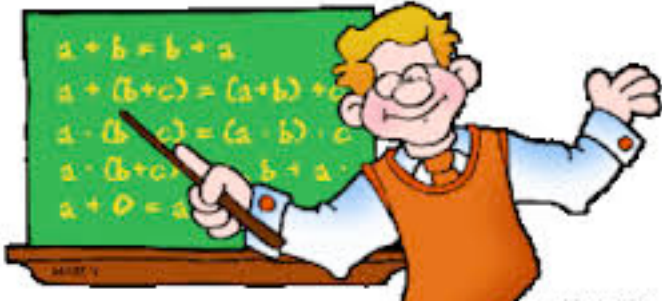
STEP 3: Write the equation ($y = mx + b$).



REVIEW: Translate each of the following verbal expressions.

3) The sum of 3 times a number x and 7

4) 6 less than 2 times a number x .



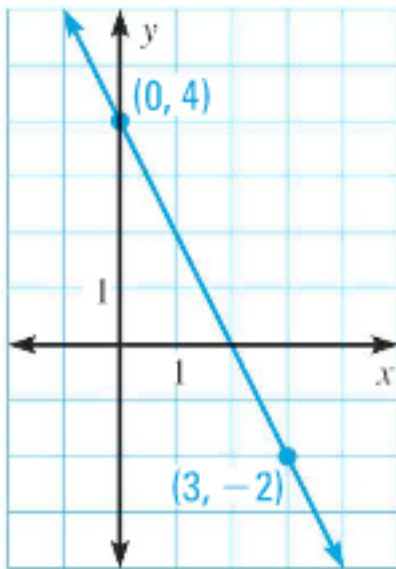
5.1 SLOPE-INTERCEPT FORM GIVEN A GRAPH



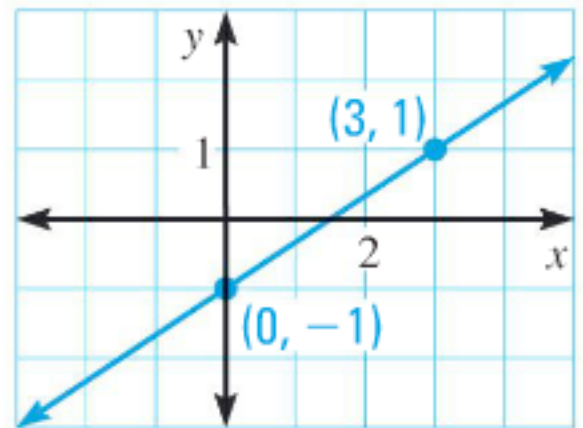
Write the equation of a line in slope-intercept form given two points on a graph.

Write in slope-intercept form the equation of the line shown in the graph.

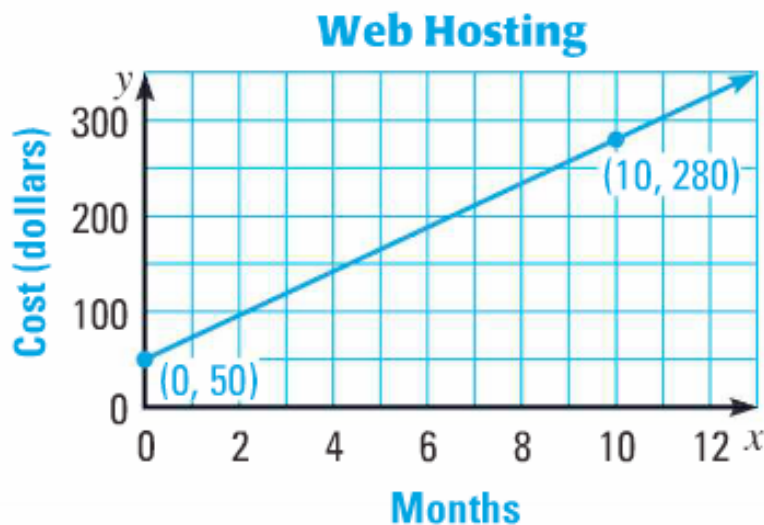
1)



2)



3)

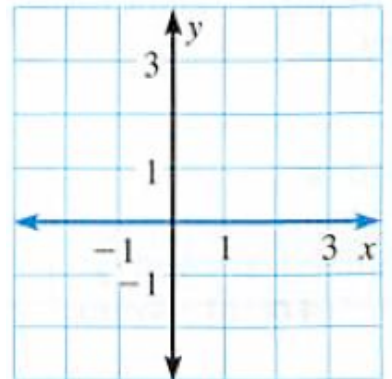
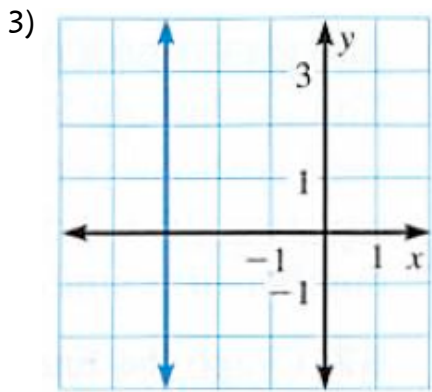
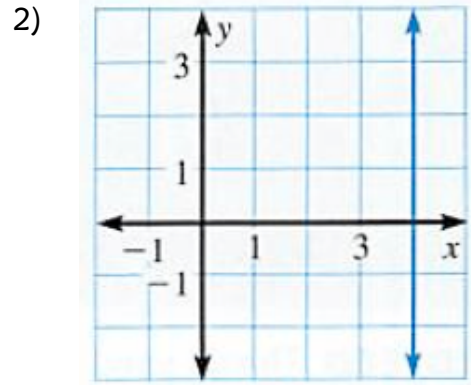
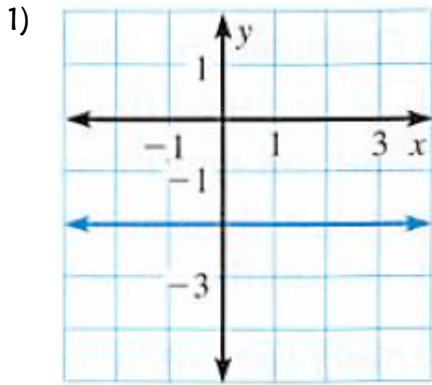


5.4 HORIZONTAL & VERTICAL LINES



Write the equation of a horizontal and vertical line.

Write an equation for the horizontal or vertical line in the graph.



Write an equation for the horizontal or vertical line given the point.

5) A horizontal line through (3, 4)

6) A vertical line through (-2, 5)

7) A vertical line through (3, 4)

8) A horizontal line through (-2, 5)



5.2 POINT-SLOPE FORM



Write an equation of a line using point-slope form.

POINT-SLOPE FORM

The _____ of the equation of the line through (x_1, y_1) with slope m is $y - y_1 = m(x - x_1)$.

Write in point-slope form the equation of the line that passes through the given point and has the given slope. Then convert the equation to slope-intercept form.

1) $(2, -1), m = 3$

2) $(-3, 4), m = -2$

3) $(6, 5), m = \frac{1}{3}$

Translate the following verbal expression.

4) y is 4 more than 3 times a number.



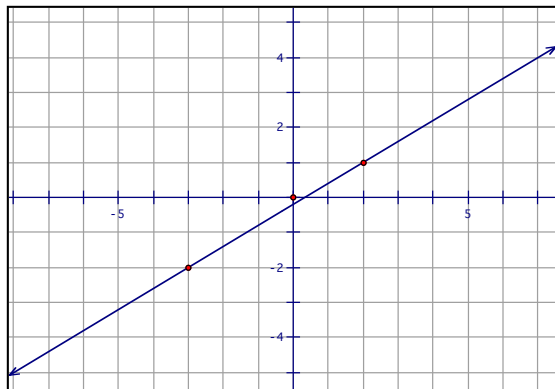
5.3 WRITING LINEAR EQUATIONS GIVEN 2 POINTS (PART 1)



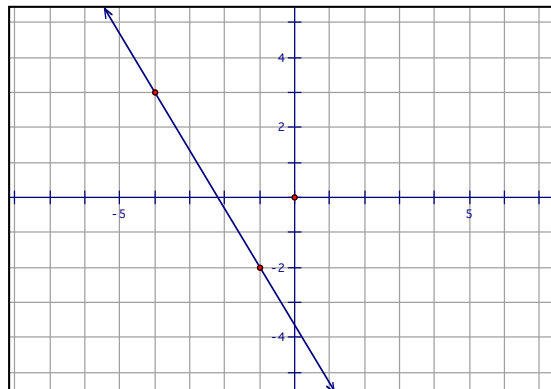
Write the equation of a line given two points.

Write in point-slope form the equation of the line that passes through the given points. Then convert the equation to slope-intercept form.

1)



2)





5.3 WRITING LINEAR EQUATIONS GIVEN 2 POINTS (PART 2)



Write the equation of a line given two points.

Write in point-slope form the equation of the line that passes through the given points. Then convert the equation to slope-intercept form.

1) $(3, 4)$ and $(2, 5)$

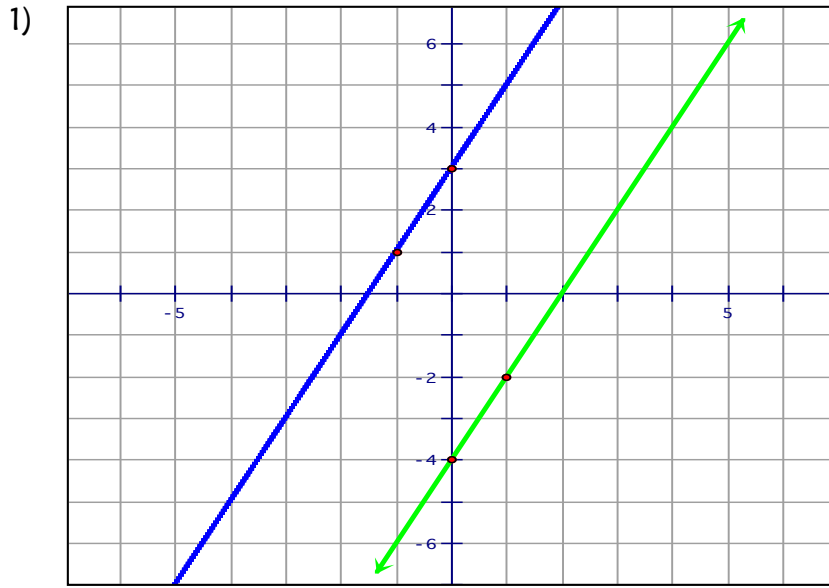
2) $(-4, 2)$ and $(-2, 3)$

5.6 WRITING EQUATIONS OF PARALLEL LINES



To understand parallel lines have the same slope, and to write the equation for a parallel line.

What do you notice about the two lines below? What is true about their **slopes**? Their **y-intercepts**?



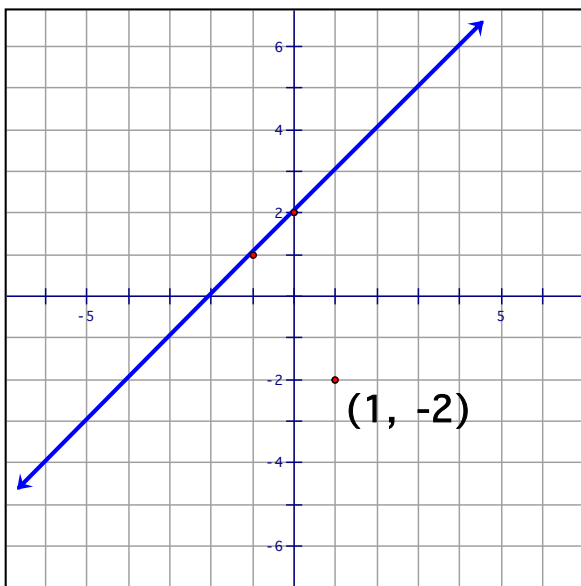
Write in slope-intercept form the equation of the line that is parallel to the given line and passes through the given point.

2) $y = 2x - 7$, $(3, -4)$

3) $y = -\frac{1}{2}x + 2$, $(-6, 1)$

Write in slope-intercept form the equation of the line that is parallel to the line in the graph and passes through the given point.

4)

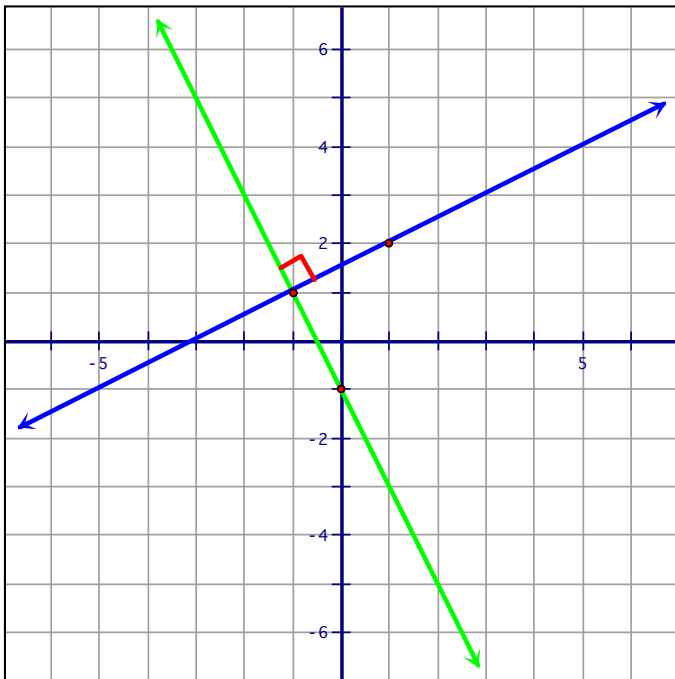


5.6 WRITING EQUATIONS OF PERPENDICULAR LINES



To identify the slope of a perpendicular line, and to write the equation for a perpendicular line.

Find the slopes of the two PERPENDICULAR LINES below.



State the “opposite reciprocal” for each of the following.

1) 3

2) $-\frac{5}{4}$

3) $\frac{1}{3}$

4) -1

5) und

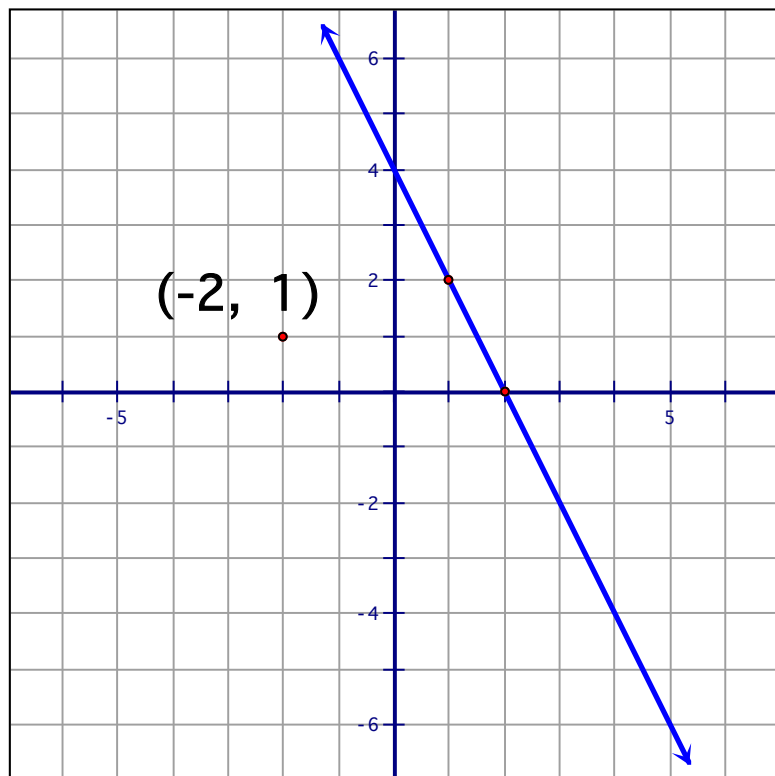
Write in slope-intercept form the equation of the line that is perpendicular to the given line and passes through the given point.

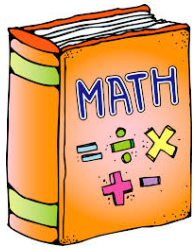
6) $y = 4x - 3, (4, 5)$

7) $y = -\frac{2}{3}x + 1, (-2, 7)$

Write in slope-intercept form the equation of the line that is perpendicular to the line in the graph and passes through the given point.

8)





5.5 MODELING LINEAR EQUATIONS



To write the equation of a line for a real world problem.

VIP MEMBERSHIP:

1) The car wash, “WASH YOUR LEMON HERE”, charges \$10 per wash to their average customer. They are creating a VIP service where members would pay \$50 upfront and \$8 per wash. Write a linear model to find the cost of joining the VIP service.

a) What is the slope in the linear model?

b) What is the y-intercept in the linear model?

c) Use the slope and the y-intercept to write the linear model. Use slope-intercept form.

d) After 10 car washes using the VIP service, how much have you paid altogether?

e) Use the equation to determine the number of washes it would take to have paid \$210.

CHALLENGE QUESTION? (2 POINTS EXTRA CREDIT): HOW MANY CAR WASHES WOULD IT TAKE FOR A VIP MEMBER TO BREAK EVEN IN PRICE TO THE AVERAGE CUSTOMER?

