

# Algebra Workshop

Name: \_\_\_\_\_

## Homework 7

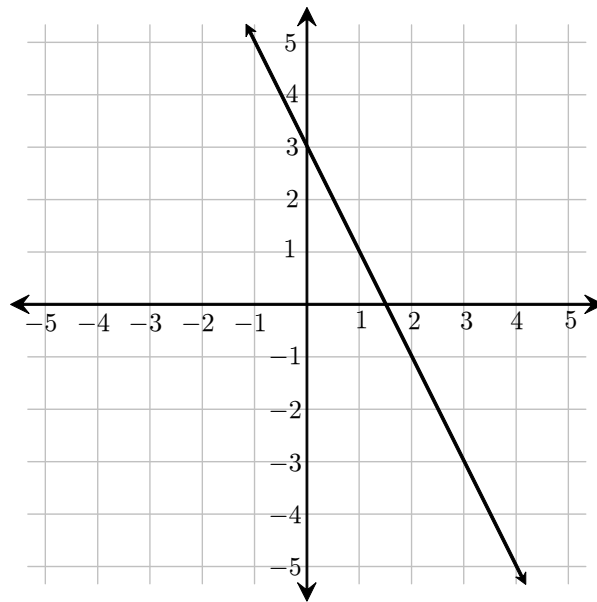
1. Find the equations for the lines through the following points:

(a)  $(-4, 2)$  and  $(-2, 5)$

(b)  $(1, 5)$  and  $(3, -1)$

(c)  $(3, 0)$  and  $(3, 5)$

2. Consider the following line:



(a) What is the slope of the line?

(b) What is the equation for the line?

(c) What is the  $y$ -intercept of the line?

(d) What is the  $x$ -intercept of the line?

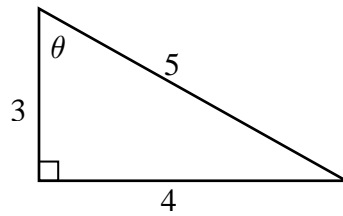
3. Suppose that a 90-inch grizzly bear weighs 500 pounds, and a 100-inch grizzly bear weighs 800 pounds. For the following two questions, assume that the height of a grizzly bear is linearly related to the weight of the grizzly bear.

(a) Find a linear equation relating the height of a grizzly bear to the weight of the grizzly bear.

(b) How many pounds would you expect a 7-foot tall grizzly bear to weigh?

(c) If a grizzly bear weighs 950 pounds, how tall do you expect the grizzly bear is?

4. Consider the following right triangle:

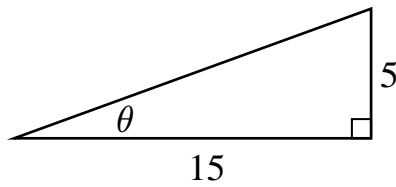


(a) What is  $\sin \theta$ ?

(b) What is  $\cos \theta$ ?

(c) What is  $\tan \theta$ ?

5. Consider the following right triangle:



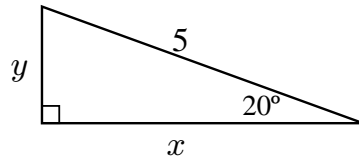
(a) What is the length of the hypotenuse?

(b) What is  $\sin \theta$ ?

(c) What is  $\cos \theta$ ?

(d) What is  $\tan \theta$ ?

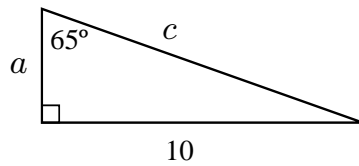
6. Consider the following right triangle:



(a) What is  $x$ ?

(b) What is  $y$ ?

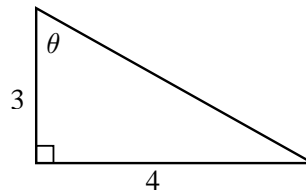
7. Consider the following right triangle:



(a) What is  $a$ ?

(b) What is  $c$ ?

8. Consider the following right triangle:



Determine the measure of the angle  $\theta$ .