Algebra 1 Hwk #1 Sec 7-4 Spring 2015 Name:

Round to the nearest tenth where necessary. SHOW YOUR WORK

See example 3 page 364 to help with problems 1 and 2.

1. A plane makes a roundtrip between two cities that are 255 miles apart. On the first part of the trip the plane flys into a headwind and takes 1.7 hours to complete the trip. The return flight takes 1.5 hours due to flying with a tailwind. Write and solve a system of equations to find the speed of the plane and the speed of the wind.

p = speed of the plane (mph) = _____ EQUATIONS:

w = speed of the wind (mph)= _____

2. Your boat can travel 4.5 mph when the water is still. You are camping on a river that has a current of 1.5 mph. In the morning you take your boat 5.4 miles upstream (against the current) to a friends campsite. This trip takes 0.9 hours. In the evening your return to your own campsite traveling downstream (with the current). This return trip takes you 1.8 hours. Write and solve a system of equations to find the speed of your boat and the speed of the current.

b = speed of the boat (mph) = _____ EQUATIONS:

c = speed of the current (mph) = _____

See Example 1 page 362 to help with problems 3 and 4.

3. On the supply shelf you have two kinds of acid solutions: 8% acid solution and 13% acid solution. For an experiment you need 20 liters of 12% acid solution. Write and solve a system of equations to find the number of liters of 8% and 13% acid solutions that must be mixed together to create 20 liters of a 12% acid solution.

x = # liters of the 8% solution = _____ EQUATIONS:

y = # liters of the 13% solution = _____

4. At a paint store you want to mix some paint to get 8 gallons of paint that is 15% blue. The store only has two kinds of blue paint. One is 12% blue and the other is 20% blue: Write and solve a system of equations to find the number of gallons of each kind of blue paint should you mix to get what you want.

x = # gallons of the 12% blue paint = _____ EQUATIONS:

y = # gallons of the 20% blue paint = _____