*Review 2.1-2.3*

1. Solve the following systems by graphing and identify each system as consistent or

inconsistent, and dependent or independent. Round any noninteger answers to 4 decimal places.

a. 2*y* = *x* – 6 b. *y* = 1.3 + 6.2*x*

7*x* – 14*y* = 28 12*y* + 20.36 = 50.4*x*

2. Two groups of high school students decide to start their own sport clinics. They plan on

teaching elementary students the basics of baseball and basketball. The baseball group charges

a registration fee of $55 in addition to $20 per hour for basics on baseball. The basketball

group charges $35 for registration in addition to $25 per hour for basics on basketball. Let

x represent hours and y represent the total cost for the sport clinics.

a. Write an equation for the total cost of the baseball clinic.

b. Write an equation for the total cost of the basketball clinic.

c. Solve the system of equations graphically and interpret the solution.

d. Which sports clinic would be the least expensive if the child plans to receive 3 hours of basics?

3. Solve the given system by elimination or substitution:

2*x* + *y* = 12

8*x* + 4*y =* 32

4. Yoga is an ancient physical and spiritual discipline and branch of philosophy that originated in India. Yoga began to grow in popularity in the United States in the 1960s and is now considered part of the mainstream of American culture. Meditation Studio charges $12 per drop-in session, plus a one-time fee of $17 for a special microfiber towel to place on top of the floor mats for absorbing perspiration. Yoga Retreat Studio charges $8 per drop-in session plus $33 for the microfiber towel. Let *x* represent the number of sessions and *y* be the total cost for yoga lessons.

a. Write an equation for the total cost of membership to the Meditation Studio.

b. Write an equation for the total cost of membership to the Yoga Retreat Studio.

c. Solve the system of equations algebraically and interpret the solution. Answer in a complete

sentence.

d. If you wanted to take 9 yoga lessons in one of these two studios, which will be more

cost-effective? Answer in a complete sentence.

5. Graph the linear inequality to find the solution set: