

Math 60, Sections 3.5 and 3.6 Group Activity

Name: _____

Section 3.6 Special Solution Sets

Equations with Special Solution Sets

1. Solve each equation and state the solution set.

a. $7x+5=7x+5$

b. $7x+5=7x+8$

c. $7x+5=2x+5$

d. $-5-3(3a-1)=-a+15-8a$

Inequalities with Special Solution Sets

2. Solve each inequality and state the solution set.

a. $3x - 7 < 3x + 9$

b. $7x + 10 > 7x + 10$

c. $2x - 7 \geq 2(x - 5) + 3$

d. $-2(x + 4) \geq 4x - 6(x + 1)$

3. Emil and Julia are saving money in their accounts. Emil starts with \$100 and saves \$60 per month. Julia starts with \$200 and saves \$60 per month. Define a variable and write an equation to determine when they will have the same amount in savings, and solve the equation.

Section 3.5 Ratios and Proportions

4. Solve the following proportions. Check each solution and write the solution set.

a. $\frac{x}{18} = -\frac{10}{6}$

b. $\frac{x-10}{9} = \frac{x-14}{15}$

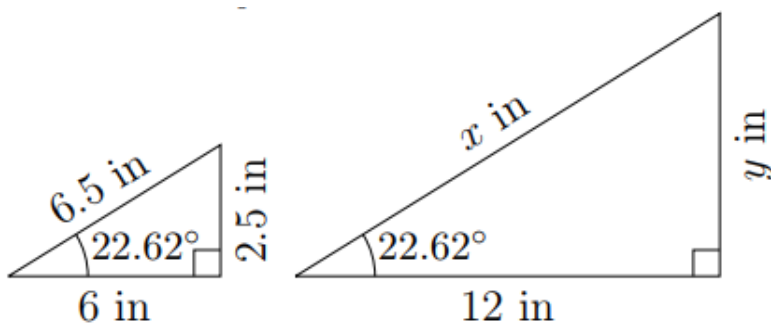
c. $\frac{x+3}{4} = \frac{7}{12}$

d. $\frac{z}{9} = \frac{z-1}{6}$

5. A car is driving 60 mph. Set up and solve a proportion to find out how long will it take the car to travel 132 miles? Remember to define your variable.

Similar triangles have the same angles and their sides are proportional.

6. Write and solve proportions for the similar triangles to find x and y .

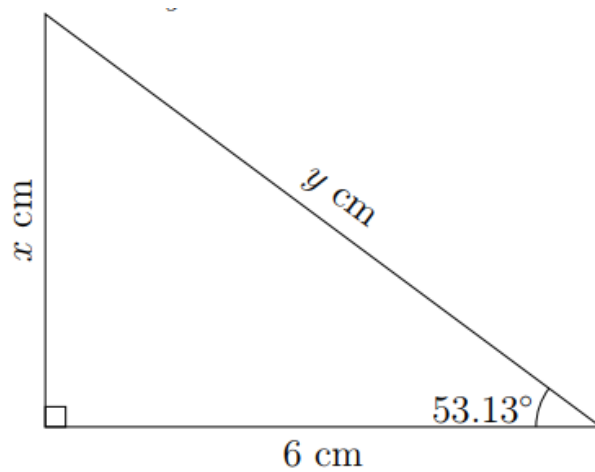
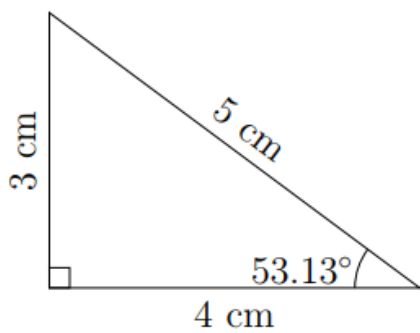


7. An 8-ounce can of soda contains 36 milligrams of caffeine. How much caffeine is contained in a 20-ounce bottle?

More Practice

8. The annual property taxes for a house assessed at \$250,000 were \$2,463. Find the property taxes for a house assessed at \$325,000.

9. Write and solve proportions to find the value of x and y .



10. Solve each equation below and state the solution set.

a. $5(t+3) \geq 2(t-3) + 3(t-7)$

b. $5(2y-1) - 5 = 12y - 2(y+3)$