IM 2 Chapter 3 Review#2 Name: _____Per._____

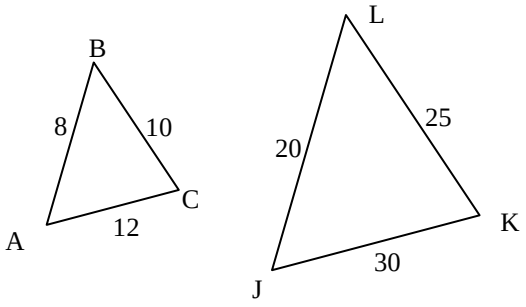
1. Solve for x:

a) $4 - 6(x+2) = 10 - 2x - 2$

b) $\frac{x}{3} - \frac{x}{5} + \frac{1}{3} = 7$

2. Determine if each of the triangle pairs are similar. If similar, complete the similarity statement, write the similarity conjecture that you used and justify the similarity conjecture. If the triangles are not similar, then state why not and Justify. NOTE: Figures may not be drawn to scale.

a.

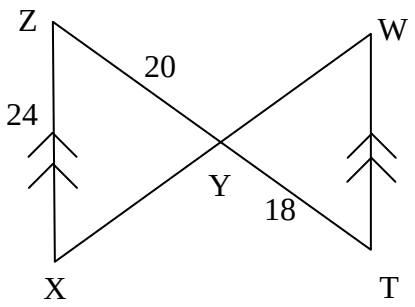


$\Delta ABC \sim \Delta$_____

Reason:_____

Justification:

b.

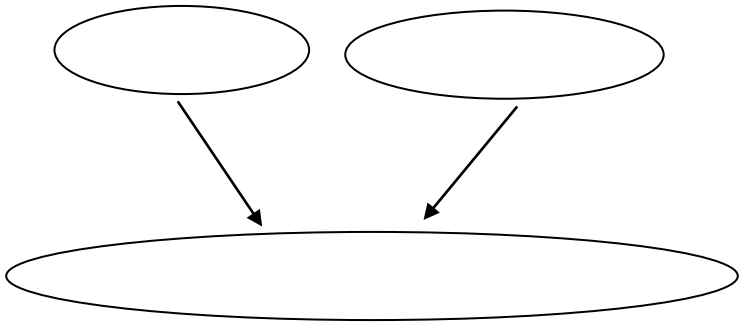


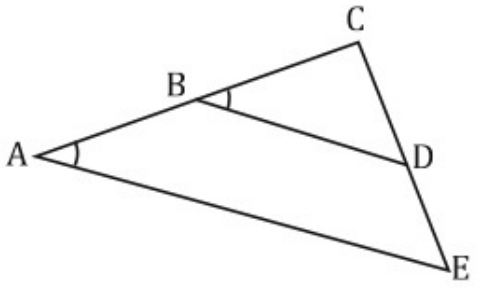
$\Delta XYZ \sim \Delta$_____

Reason: _____

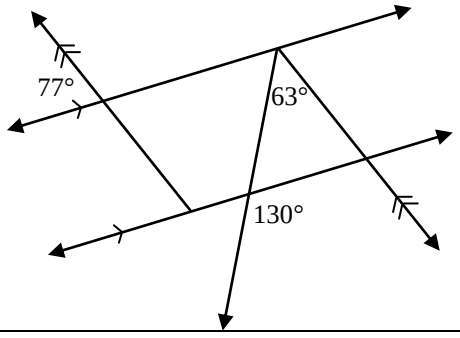
Justification:

3. Use a flowchart to determine if △ACE is similar to △BCD.





4. Are the angle relationships shown in the diagram at right possible? Justify your conclusion with reasons.



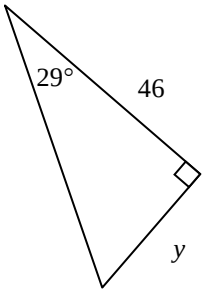
5. Solve for the point of intersection for each system of equations.

a) $2x + y = 20$
$6x - 5y = 12$

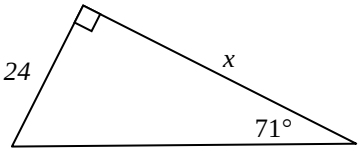
b) $-3x - 3y = 3$
$y = -5x - 17$

6. Use the tangent ratio to find x. Show all steps leading to your answer.

a)



b)

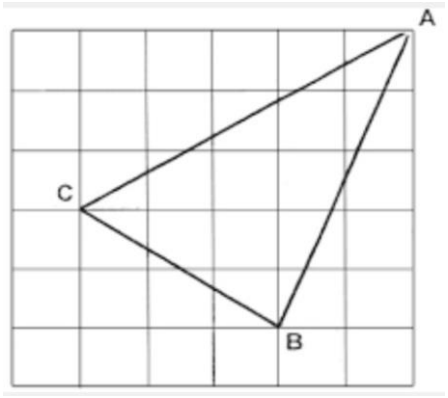


7. Calculate the length of each side. Show your work or explain how you did it.

a. BC =

b. AB =

c. AC=

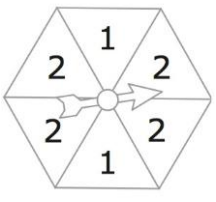


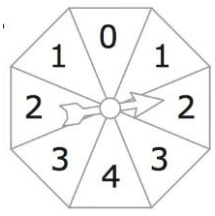
d. What is the perimeter?

e. What is the area?

8.

The two spinners shown to the right are spun. You spin each spinner once. If the spinner lands on a different number each spin then you will win $5. Otherwise will you lose $10.





a. Make an area or tree diagram for the problem.
b. What is the probability that you will win?
c. Is this game fair? Use expected value in your answer.

9. Carol has three coins. Unfortunately they are unfair coins. The probability of tossing a head for each coin is $\frac{1}{5}$.

Suppose these three unfair coins are flipped.

a) Make an organized list or a tree diagram showing all the possible combinations of heads and tails.

b) What is the probability that at least one coin comes up tails?

c) What is the probability that you get exactly 2 heads?

10. If you spin 1 time, you will win or lose the dollar amount shown.

a) Find P($11) .

b) Find P(-$5)

c) How much money would you expect to collect in 50 spins?

d) Use expected value to show that this is a fair game.