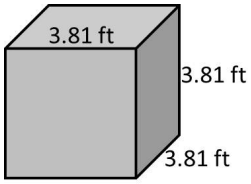
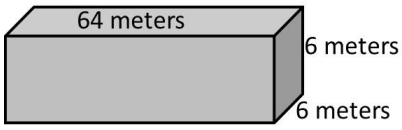
LESSON 11– PRACTICE PROBLEMS

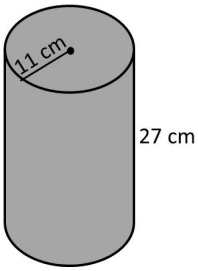
1.

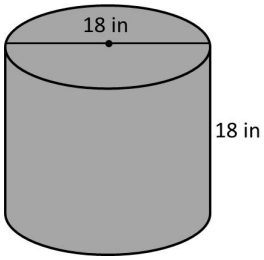
a. Determine the volume of each of the figures shown below. Round your answers to the nearest integer and include appropriate units of measure.

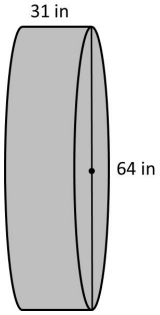




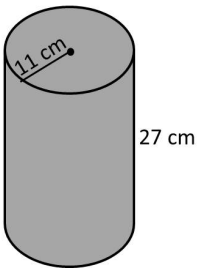
b. Determine the volume of each of the figures shown below. Use 3.14 for π. Round your answers to the nearest hundredth and include appropriate units of measure.

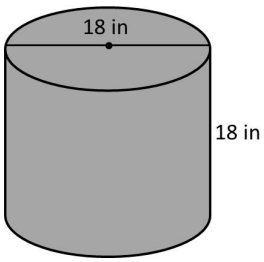


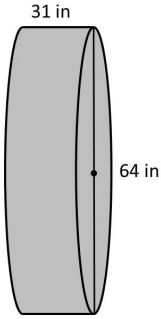




c. Determine the volume of each of the figures shown below. Use the "π" key on your calculator (do not round to 3.14). Round your answers to the nearest integer and include appropriate units of measure.

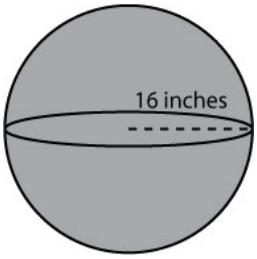


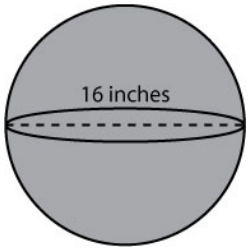




d. Your answers to parts b and c should be different. Why is this the case?

e. Determine the volume of the spheres shown below. Use 3.14 for π. Round your answers to the nearest hundredth and include appropriate units of measure.

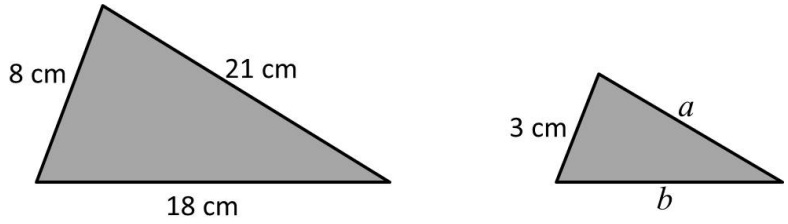




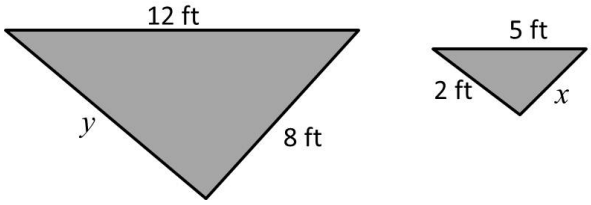
2. Solve the following application problem. Use the 5-step process as your guide. Circle the GIVENS and underline the GOAL. Show MATH WORK and WRITE YOUR FINAL ANSWER AS A COMPLETE SENTENCE. Draw pictures if appropriate.

Renee is interested in buying a hot tub for her backyard and is looking at two models from the same company. Model B is roughly in the shape of a box with dimensions 3 ft x 10 ft x 4 ft. Model A is roughly in the shape of a cylinder with radius 3 ft and height 4 ft. Which one holds a greater volume of water and by how much?

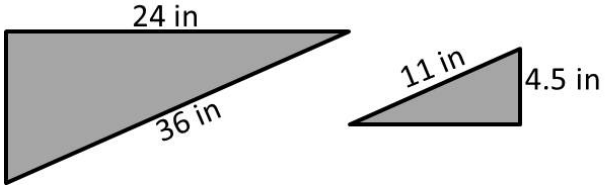
3. Similar Triangles
   a. Use the Similar Triangles process to determine the lengths of the missing sides below. Round your answers to the nearest tenth and include appropriate units of measure.



   b. Use the Similar Triangles process to determine the lengths of the missing sides below. Round your answers to the nearest tenth and include appropriate units of measure.



   c. Use the Similar Triangles process to determine the lengths of the missing sides below. Round your answers to the nearest tenth and include appropriate units of measure.



4. Solve the following application problem. Use the 5-step process as your guide. Circle the GIVENS and underline the GOAL. Show MATH WORK and WRITE YOUR FINAL ANSWER AS A COMPLETE SENTENCE. Draw pictures if appropriate.

Sandy wants so know how tall the flagpole is near her school. One day she decides to find out. She measures the length of the flagpole shadow at 15 feet and measures her shadow at 5 feet (at the same time). Sandy is 4 feet, 8 inches tall. How tall is the flagpole? Give your answer in feet and also in feet and inches.

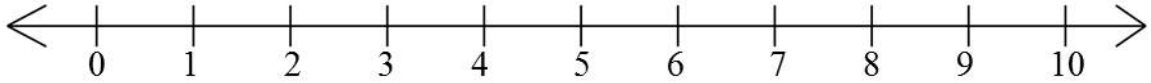
5.

a. Perfect Squares: Without using your calculator, fill in the blanks below.

$\sqrt{1} = \_\_$	$\sqrt{\_\_} = 5$	$\sqrt{\_\_} = 9$
$\sqrt{4} = \_\_$	$\sqrt{\_\_} = 6$	$\sqrt{100} = \_\_$
$\sqrt{9} = \_\_$	$\sqrt{\_\_} = 7$	$\sqrt{\_\_} = 11$
$\sqrt{16} = \_\_$	$\sqrt{\_\_} = 8$	$\sqrt{144} = \_\_$

b. Without using your calculator, place each of the following on the number line below.

$\sqrt{2}$ $\sqrt{11}$ $\sqrt{40}$ $\sqrt{60}$ $\sqrt{99}$

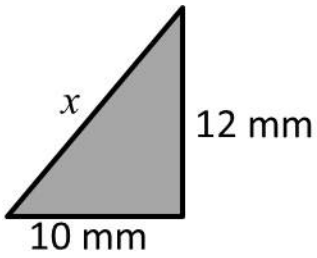


c. Use your calculator to evaluate each of the following. Round your answers to the nearest hundredth.

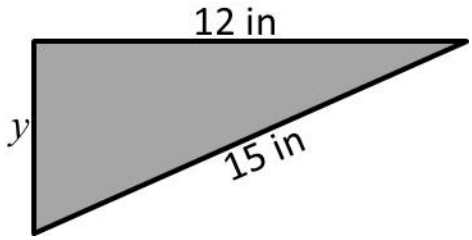
$\sqrt{2} =$ _____ $\sqrt{11} =$ _____ $\sqrt{40} =$ _____ $\sqrt{60} =$ _____ $\sqrt{99} =$ _____

6. Use the Pythagorean theorem to find the lengths of the missing sides of the triangles shown below. Round your answers to the nearest tenth and include appropriate units of measure.

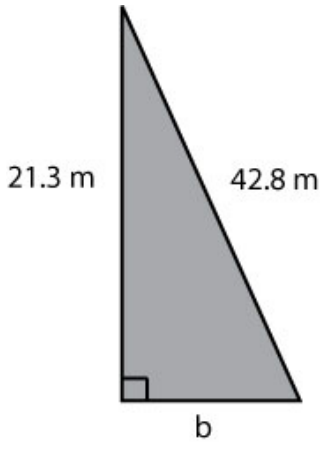
a.



b.



c.



7. Solve the following application problems. Use the 5-step process as your guide. Circle the GIVENS and underline the GOAL. Show MATH WORK and WRITE YOUR FINAL ANSWER AS A COMPLETE SENTENCE. Draw pictures if appropriate.

a. Two trains left a station at exactly the same time. One train traveled south and one train traveled west. When the southbound train had gone 75 miles, the westbound train had gone 125 miles. How far apart were the trains at this time?

b. TV screens are measured on the diagonal. If we have a TV-cabinet that is 40-inches long and 34 –inches high, how large a TV could we put in the space (leave 2-inches on all sides for the edging of the TV).