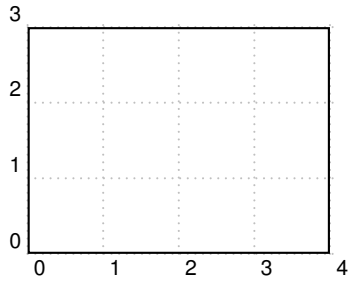


DUE: _____

Name _____

GEOMETRY REVIEW
Seeing Geometry / Special Triangles

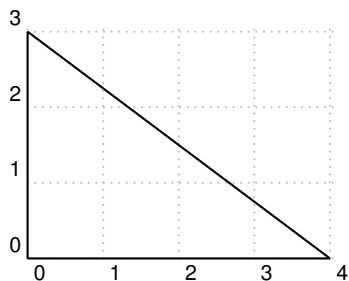


1) Find the area and the perimeter of the rectangle

2) What formulas can you use for finding perimeter and area of rectangles?

3) Are there methods other than using formulas for finding perimeter and area?

4) What is the difference between units for perimeter and units for area?

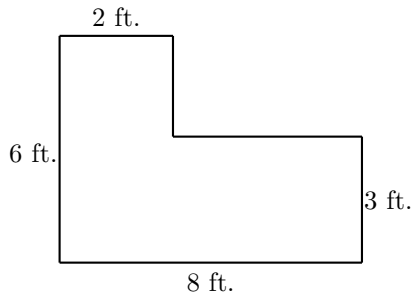


5) Find the area and the perimeter of the triangle

6) What formula can you use for finding the area of a triangles?

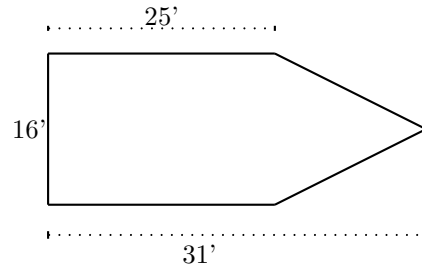
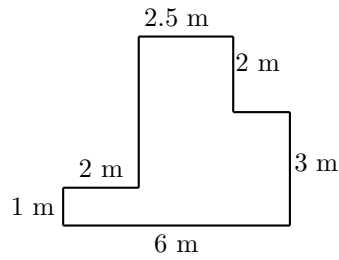
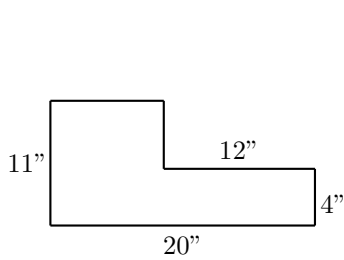
7) Are there methods other than using a formula for finding the area of a rectangle?

8) Find the area of this shape.



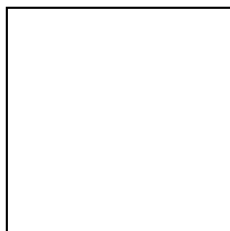
9) How did you find the area above? Once you find the area, try to find another way of finding it.

10) Find the area of each shape below. (Assume all angles that look like right angles are right angles.)

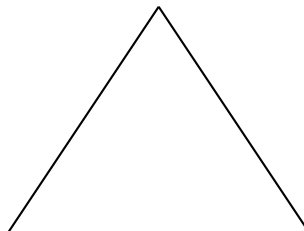


The **PYTHAGOREAN THEOREM**, which states that $a^2 + b^2 = c^2$ where a and b are the lengths of the legs of a right triangle and where c is the length of the hypotenuse (longest side) of a right triangle, is one of the most important theorems in all mathematics. Use the space below to copy over the notes and work done in class as this formula is reviewed:

There are two triangles in particular that show up a lot in ‘real-life’ applications - in engineering, architecture, construction and so on - and also in advanced mathematics such as trigonometry. These are the $45^\circ - 45^\circ - 90^\circ$ triangle and the $30^\circ - 60^\circ - 90^\circ$ triangle. We are going to use the square and the equilateral triangle below to build these special triangles and to explore the relationships of the sides of each triangle.



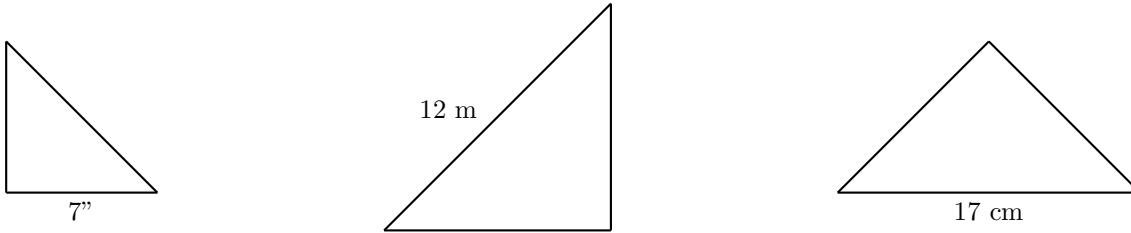
Properties of $45^\circ - 45^\circ - 90^\circ$



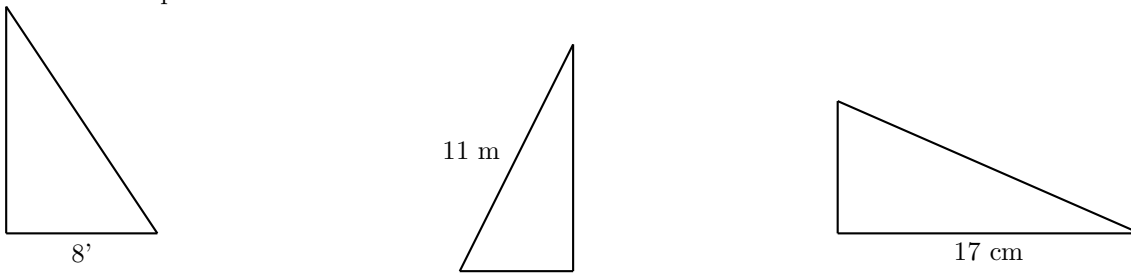
Properties of $30^\circ - 60^\circ - 90^\circ$



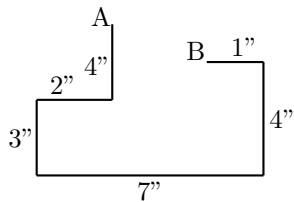
11) Each of the following triangles is a $45^\circ - 45^\circ - 90^\circ$. Find the lengths of the missing sides for each. Give an exact answer in simplified form.



12) Each of the following triangles is a $30^\circ - 60^\circ - 90^\circ$. The leg that looks like the shortest leg is the shortest leg, and the side that looks like the longest leg is the longest leg. Find the lengths of the missing sides for each. Give an exact answer in simplified form.



13) The path from A to B consists of straight line segments whose lengths (in inches) are as shown and whose angles are all right angles. What is the diagonal distance from A to B?



14) Go back to problems #5 and #10. For problem #5, find the perimeter of the triangle. For problem #10 find the perimeter of the third shape pictured. and find the perimeter of that triangle. (Hint: The triangles involves are neither $45^\circ - 45^\circ - 90^\circ$ nor $30^\circ - 60^\circ - 90^\circ$. What tool can you use to find the length of the missing side/s?)

Answer for #5 _____

Answer for #10 _____