Geometry CC – Mr. Valentino Name: _____

Unit 11 Day 3: Area of Polygons/Circles Date: _____ Per: _____

(Day 1 was Partitioning a Line Segment, Day 2 was Interior Angles of a Polygon)

Aim: How can we find the area of polygons and circles?

Do Now: Using your reference table, what are the area formulas for a…

Triangle =

Circle =

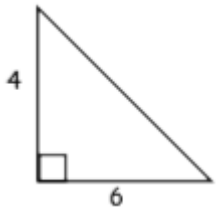
Square =

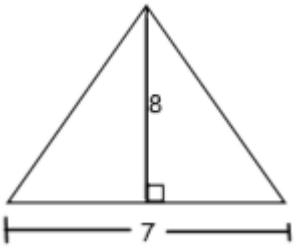
Rectangle =

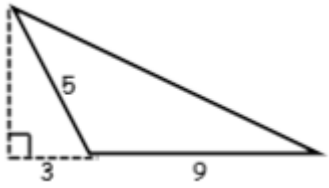
Parallelogram =

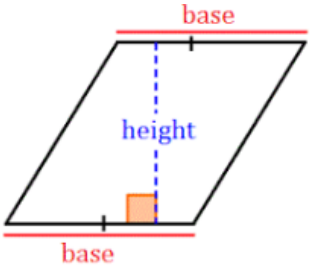
Find the areas of the triangles below:

Area of a Triangle





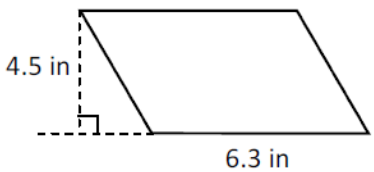


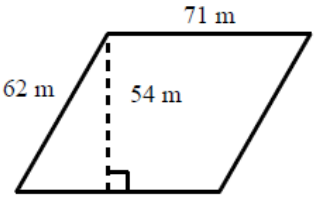


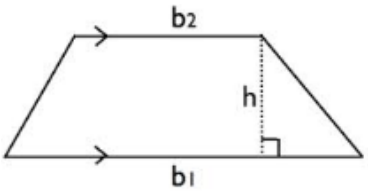
Area of a parallelogram

***This formula also works for rectangles, rhombuses and squares since they are parallelograms!*

Example: Find the area of each parallelogram

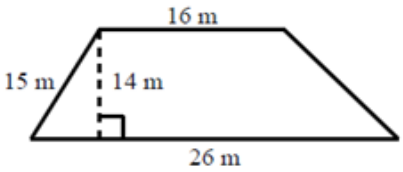






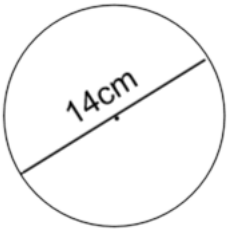
Area of a Trapezoid

Example: Find the area of the trapezoid



Area and Circumference of a Circle

Find the area and circumference of the circle below:



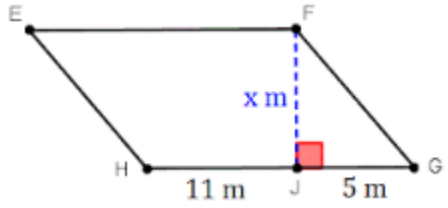
PRACTICE/APPLICATION

1. The perimeter of a square is 64 meters. Find the area of the square.

2. A rectangle is 20 in. tall. Its area is 260 $in.^2$. What is its width?

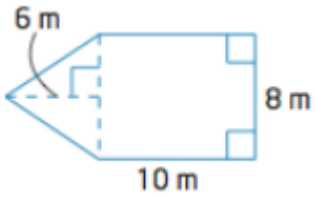
3. The area of a trapezoid is $170\ \text{in}^2$. If the height is 10 in. and the longer base is 31 in., what is the length of the shorter base? Round your answer to the nearest tenth.

4. Given the area of the parallelogram is $80\ \text{m}^2$. Find the exact length of $\overline{FG}$.

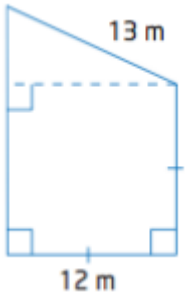


Find the area of the composite figures:

5.

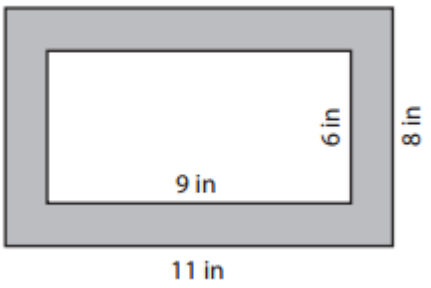


6. *be careful with the dimensions on this one!*

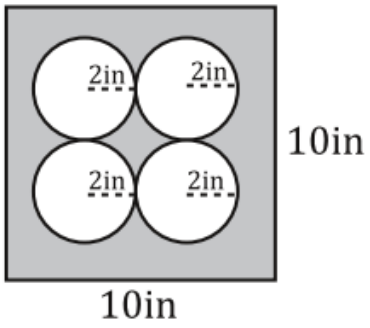


Find the area of the shaded region

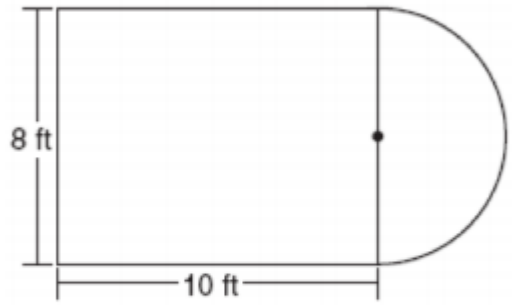
7.



8.



9. Luis is going to paint a basketball court on his driveway, as shown in the diagram below. This basketball court consists of a rectangle and a semicircle.



Which expression represents the area of this basketball court, in square feet?

1) 80
2) $80 + 8\pi$
3) $80 + 16\pi$
4) $80 + 64\pi$

10. The diagram below consists of a square with a side of 4 cm, a semicircle on the top, and an equilateral triangle on the bottom. Find the perimeter of the figure to the *nearest tenth of a centimeter*.