Mr. Baroody's Web Page

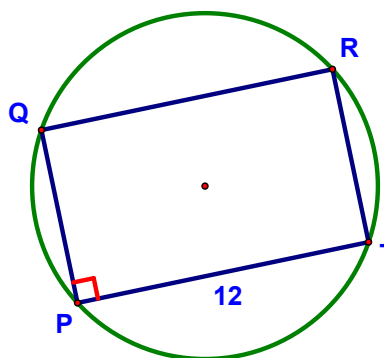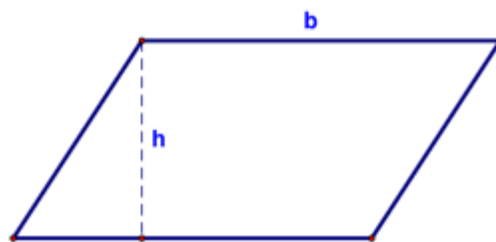## Area of Parallelograms and Triangles - Lesson 11-2

Here's the warmup!

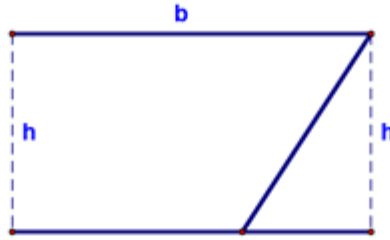**PQRT is inscribed in a circle with diameter 15. Find**

a. The area of PQRT

b. The area of △PQT

Today, we're going to look at how to find the area of a couple of different shapes. We'll start with a parallelogram:

We noted that if we cut out the triangle on the left, we could move it to the other side and form something (a rectangle) for which we already have an area formula:
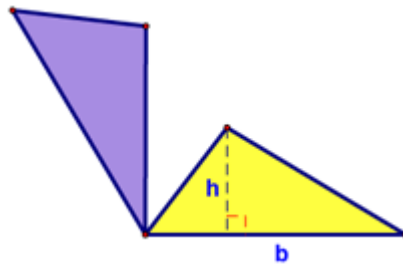
Theorem 98: The area of a parallelogram is given by the formula *A=bh* where *A* is the area, *b* is the length of the base, and *h* is the height of the parallelogram .
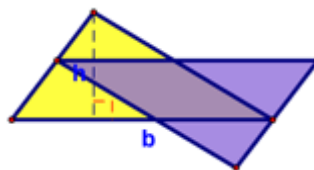

Next, let's look at how to find the area of a triangle. We can start with a triangle (the yellow one), made a copy of it (the purple one) and translate it (to the left):
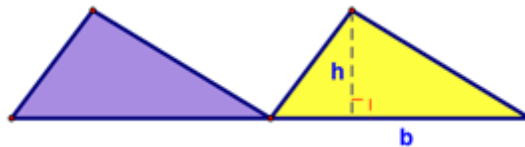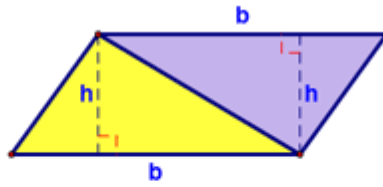

Then rotate it clockwise:

Then translate it (up) again:

Until we have a shape for which we already have an area formula (a parallelogram):

Theorem 99 (*Area of a Triangle*): The area of a triangle is given by the formula $A = \frac{1}{2}bh$, where A is the area, b is the length of the base, and h is the height of the triangle.