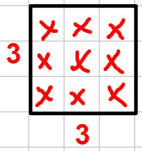
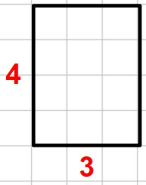
LAUNCH

Find the area of each rectangle. Which rectangles have the same area?

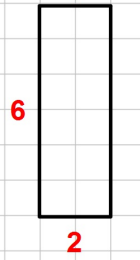
1) $9u^2$



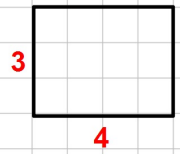
2) $12u^2$



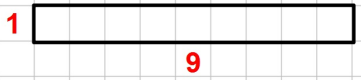
3) $12u^2$



4) $12u^2$



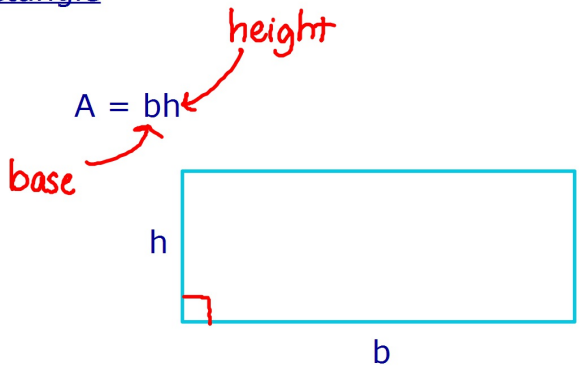
5) $9u^2$



3.6/3.7 Area of Triangles, Parallelograms, and Rectangles

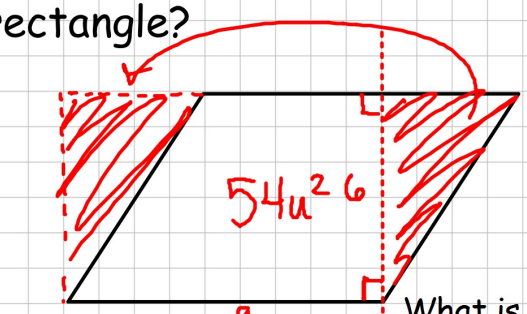
LG: Students will know the formulas of finding area and how to apply them.

Area of a Rectangle

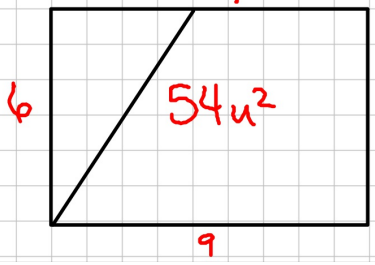


h= height(it is perpendicular to the base)

How could I rearrange the parallelogram into a rectangle?



What is the area of the rectangle?

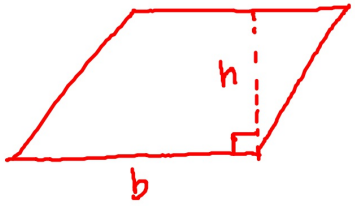


What is the area of the starting parallelogram?

Area of Parallelogram

$$A = bh$$

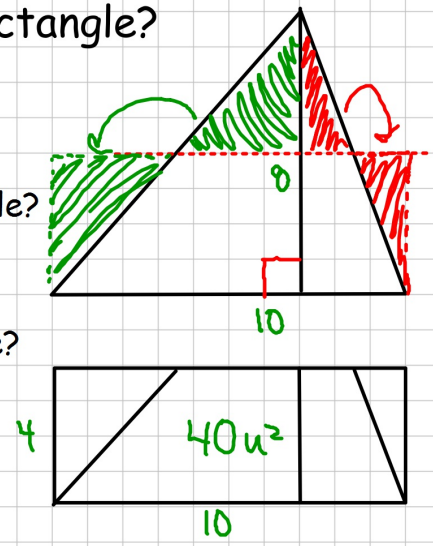
h= height(it is perpendicular to the base)



How could I rearrange the triangle into a rectangle?

What is the area of the resulting rectangle?

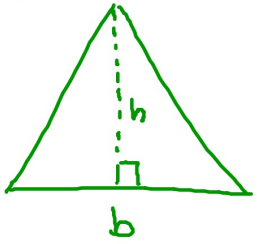
What is the area of the beginning triangle?



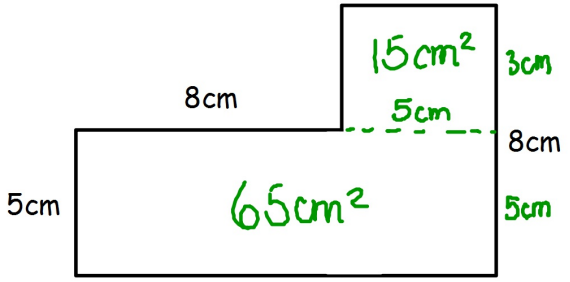
Area of a Triangle

$$A = \frac{1}{2}bh$$

h= height(it is perpendicular to the base)



Example: Find the area.

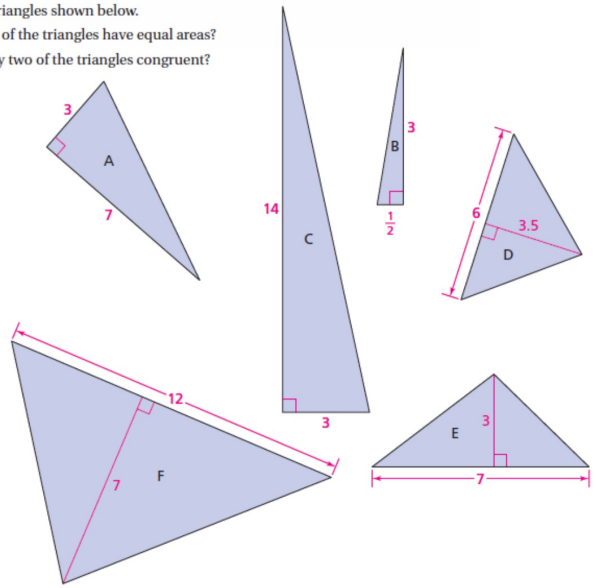


$65cm^2 + 15cm^2 = 80cm^2$

On Your Own

Page 202: 2-14

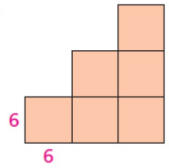
2. Use the triangles shown below.
   a. Which of the triangles have equal areas?
   b. Are any two of the triangles congruent?



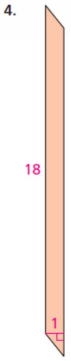
On Your Own

For Exercises 3–8, find the area of each figure. Assume that sides that look parallel are parallel and angles that appear to be right angles are right angles.

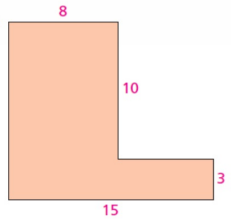
3.



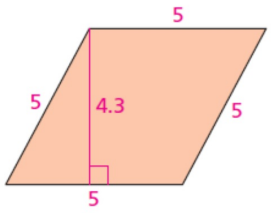
4.



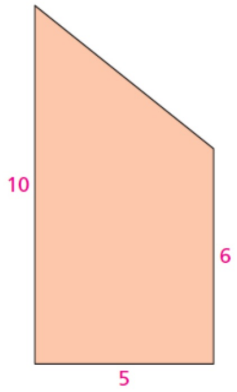
5.



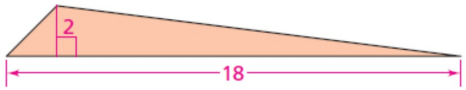
6.



7.

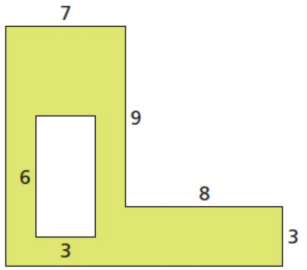


8.



9. **Standardized Test Prep** What is the area of the shaded portion of the figure at the right?

   A. 69 square units
   B. 87 square units
   C. 90 square units
   D. 108 square units



10. In rectangle $ABYX$, is the sum of the areas of $\triangle ACX$ and $\triangle BCY$ greater than, less than, or equal to the area of $\triangle ABC$? Justify your answer.