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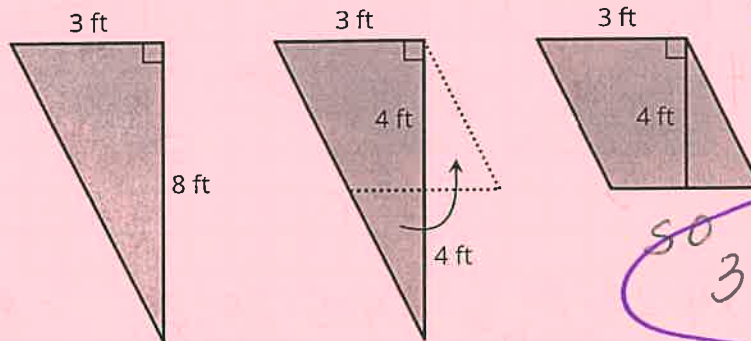
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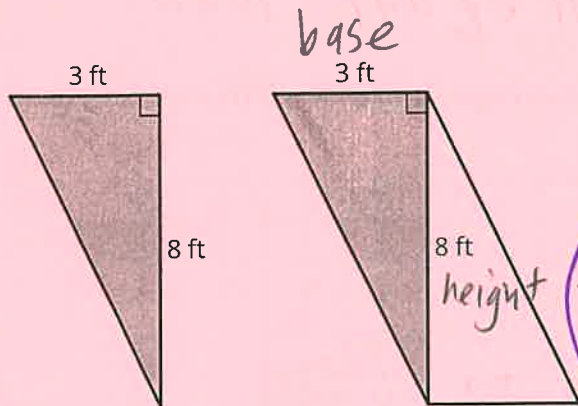
## Unit 1, Lesson 8: Area of Triangles

1. To find the area of this right triangle, Diego and Jada used different strategies. Diego drew a line through the midpoints of the two longer sides, which decomposes the triangle into a trapezoid and a smaller triangle. He then rearranged the two shapes into a parallelogram.



Diego  
The base is 3 feet and the height is 4 ft  
so  $3 \times 4 = 12 \text{ ft}^2$  ↑

Jada made a copy of the triangle, rotated it, and lined it up against one side of the original triangle so that the two triangles make a parallelogram.



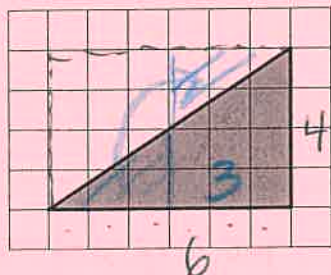
- a. Explain how Diego might use his parallelogram to find the area of the triangle.

Jada  
Diego doubled the area by using 2 triangles to make a  $\square$ . So  $3 \times 8 = 24 \text{ ft}^2 \div 2 = 12 \text{ ft}^2$

- b. Explain how Jada might use her parallelogram to find the area of the triangle.

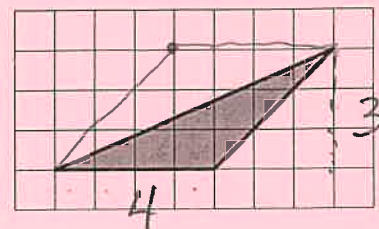
2. Find the area of the triangle. Explain or show your reasoning.

a.  $A = b \times h$   
 $\square = 6 \times 4 = 24 \text{ un}^2 \div 2 = 12 \text{ un}^2$  b.



OR  
Rearrange  
 $3 \times 4 = 12 \text{ un}^2$

$A = b \times h$   
 $\square 4 \times 3 = 12 \text{ un}^2 \div 2 = 6 \text{ un}^2$



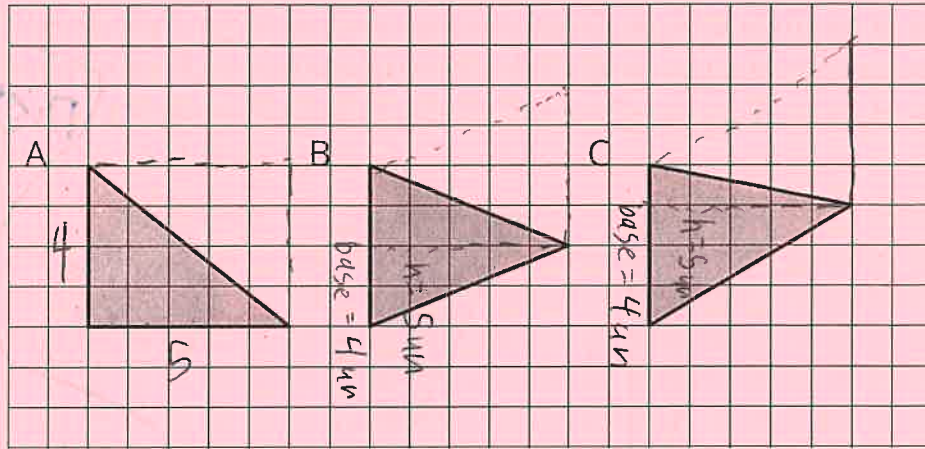
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3. Which of the three triangles has the greatest area? Show your reasoning.



$5 \times 4 = 20 \div 2 = 10 \text{ u}^2$

$4 \times 5 = 20 \div 2 = 10 \text{ u}^2$

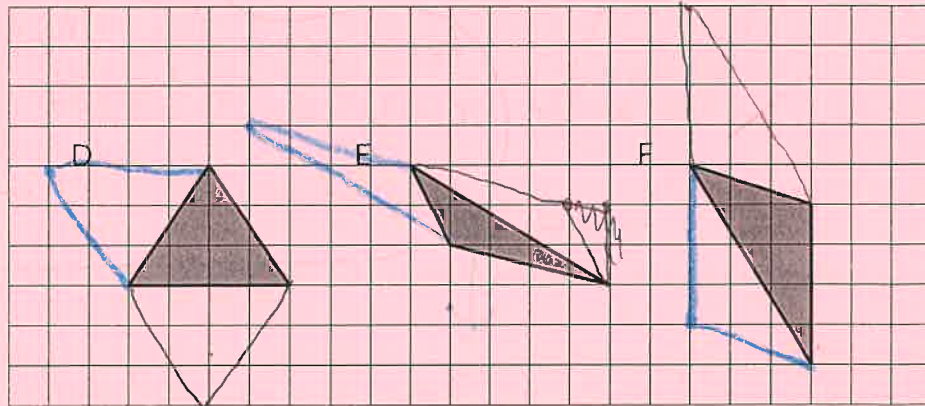
$4 \times 5 = 20 \div 2 = 10 \text{ u}^2$

If you get stuck, use what you know about the area of parallelograms to help you.

They are all equal  $10 \text{ u}^2$

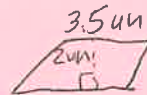
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4. Draw an identical copy of each triangle such that the two copies together form a parallelogram. If you get stuck, consider using tracing paper.



2 possible for each only need 1.

(from Unit 1, Lesson 7)

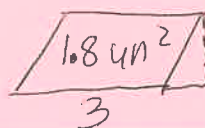


5. a. A parallelogram has a base of 3.5 units and a corresponding height of 2 units. What is its area?

$3.5 \times 2 = 7 \text{ u}^2$

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b. A parallelogram has a base of 3 units and an area of 1.8 square units. What is the corresponding height for that base?



$1.8 = 3 \times ?$

$0.6 \text{ u} = ?$