

### 4.1 Area of Parallelograms Notes

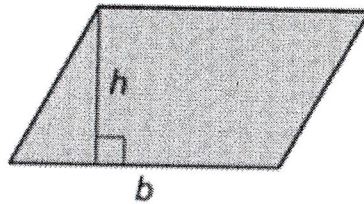
A POLYGON is a closed figure in a plane that is made up of three or more line segments that intersect only at their endpoints.

The area of a polygon is the amount of surface it covers. (inside)

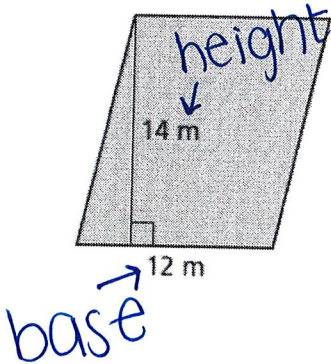
A parallelogram has 4 sides and its opposite sides are parallel.

Area of a Parallelogram:

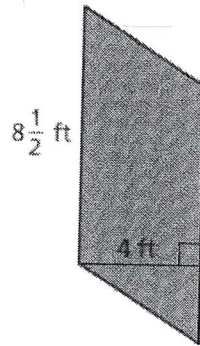
Area = base x height  
 $A = bh$



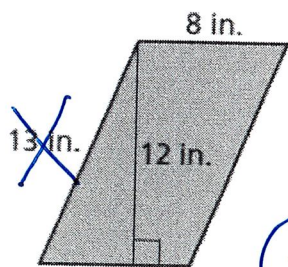
Find the area of each parallelogram. Be sure to show your formula, substitution, & answer with label



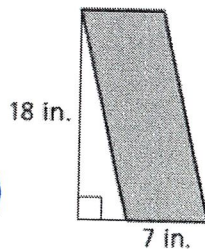
$A = bh$   
 $A = 12 \cdot 14$   
 $A = 168 \text{ m}^2$



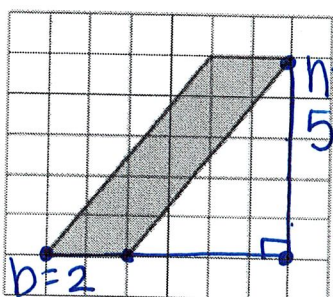
$A = bh$   
 $A = 8.5 \cdot 4$   
 $A = 34 \text{ ft}^2$



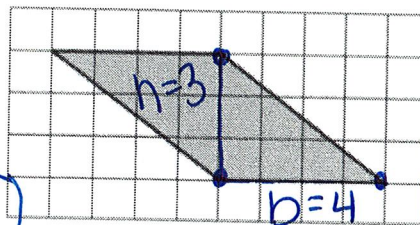
$A = bh$   
 $A = 8 \cdot 12$   
 $A = 96 \text{ in.}^2$



$A = bh$   
 $A = 7 \cdot 18$   
 $A = 126 \text{ in.}^2$



$A = bh$   
 $A = 2 \cdot 5$   
 $A = 10 \text{ units}^2$



$A = bh$   
 $A = 4 \cdot 3$   
 $A = 12 \text{ units}^2$

You make a photo prop for a school fair. You cut a 10-inch square out of a parallelogram-shaped piece of wood. What is the area of the photo prop?

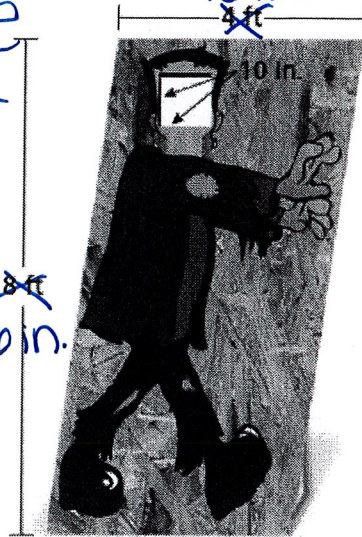
Area of photo prop = Area of wood - Area of square cut out

$$A = bh$$

$$A = 48 \cdot 96$$

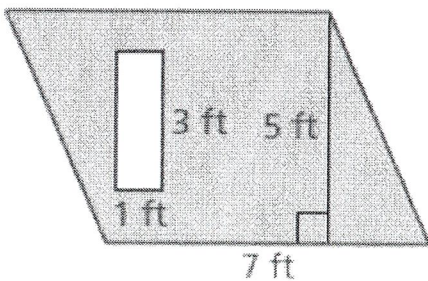
$$A = 4608 \text{ in}^2 - 100 \text{ in}^2$$

\* Need to change to same units!  
 48 in. change to inches



$$A = 4508 \text{ in}^2$$

Find the area of the shaded region. Be sure to show your formulas, substitution, & answer with label



Area of shaded - Area of cut out

$$bh$$

$$7 \cdot 5$$

$$35 \text{ ft}^2 - 3 \text{ ft}^2$$

$$32 \text{ ft}^2$$