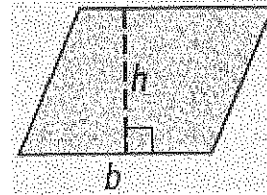


Area of Parallelograms - Notes**Parallelogram:**

- Quadrilateral with both pairs of opposite sides parallel and congruent
- Opposite angles are congruent
- Diagonals bisect each other
- Any side of a parallelogram can be called the *base*
- Any segment that is perpendicular to the base is the *altitude* (height of the parallelogram)

Area of a Parallelogram:

$$A = bh$$

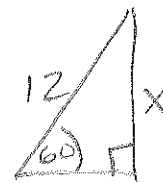
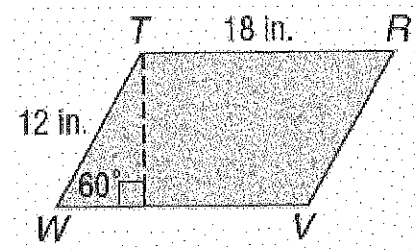
**Example 1:**Find the perimeter and area of $TRVW$

Perimeter = 60 in $18 + 12 + 18 + 12$
 $= 60$

Height = 10.4 in

Base = 18 in

Area = 187.2 18×10.4



$$\sin 60 = \frac{x}{12}$$

$$x = (12)(\sin 60)$$

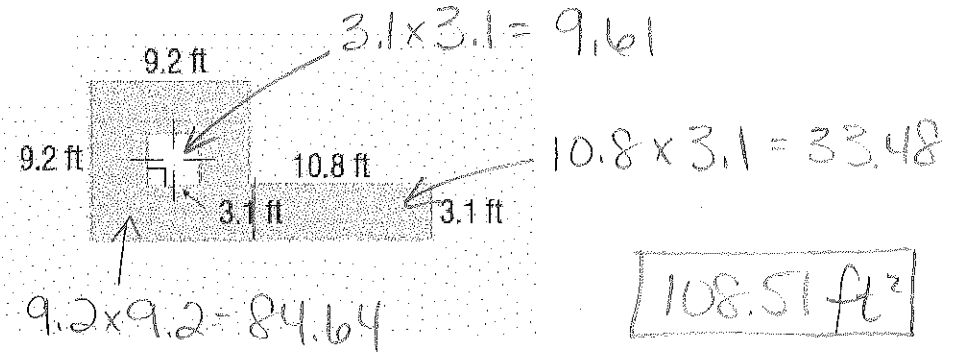
$$x = 10.39$$

height = 10.4

Example 2:

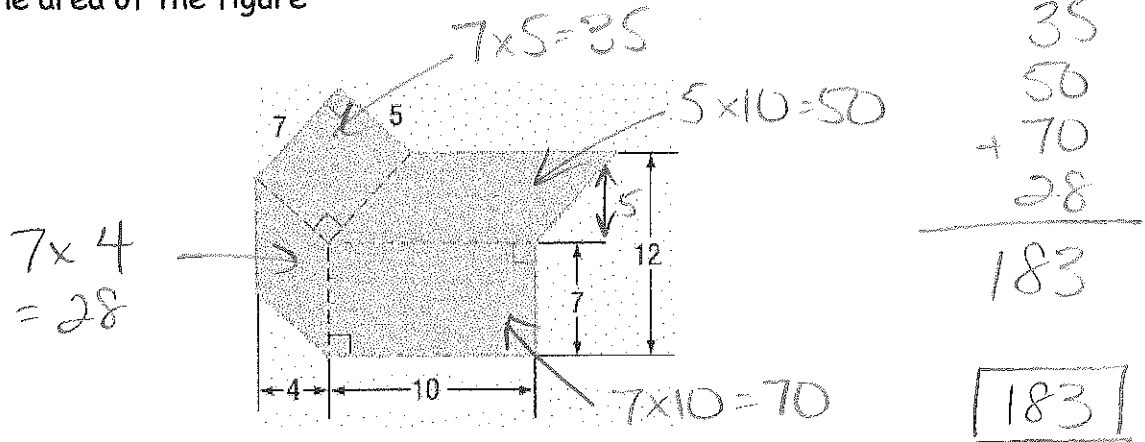
Find the area of the shaded region

$$\begin{array}{r} 84.64 \\ + 33.48 \\ \hline 118.12 \\ - 9.61 \\ \hline 108.51 \end{array}$$



Example 3:

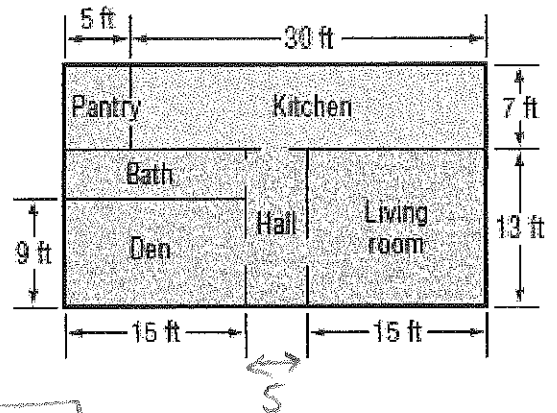
Find the area of the figure



Example 4:

The Jones' are planning to carpet part of their house. The carpet they plan to buy is sold by the square yard. Find the amount of carpeting needed to cover the living room, den and hall.

$$\begin{array}{l} \text{LR: } 13 \times 15 = 195 \\ \text{Den: } 9 \times 15 = 135 \\ \text{Hall: } 13 \times 5 = 65 \\ \hline 395 \end{array}$$



$$395 \text{ ft}^2$$

$$395 \div 9 = 43.9 \text{ yd}^2$$

