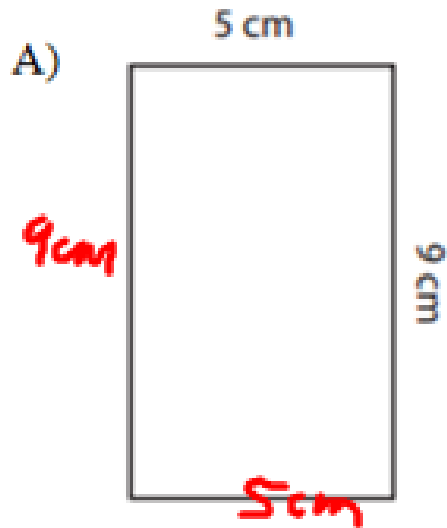


Rectangles and Squares

1) Find the area and perimeter of the following rectangles or squares. SHOW WORK AND LABEL

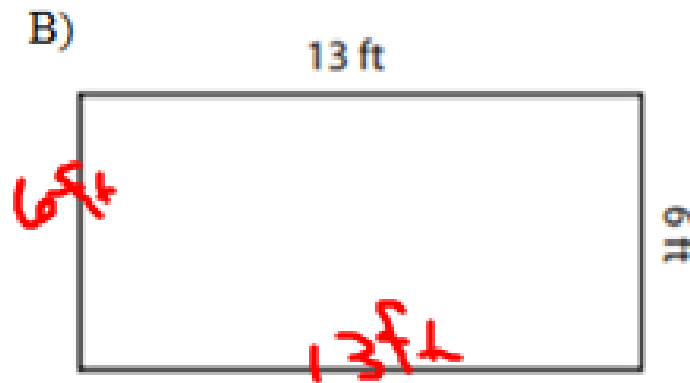


Area = 45 cm²

Perimeter = 28 cm

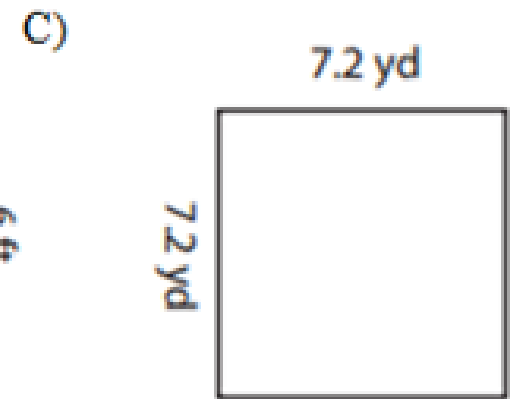
$A = 9 \cdot 5$

$P = 9 + 5 + 9 + 5$



Area = 78 ft²

Perimeter = 38 ft



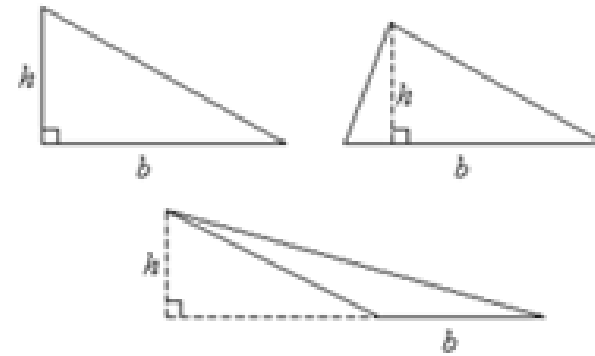
Area = 51.84 yd²

Perimeter = 28.8 yd

Triangles

DIMENSIONS OF A TRIANGLE

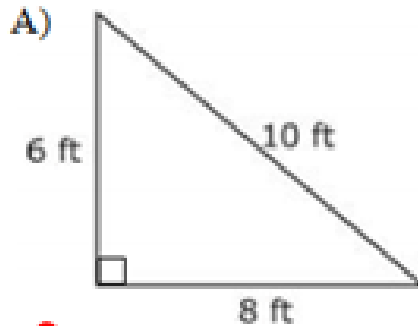
We use the words **base and height** to describe the dimensions of a triangle. The base and the height must **ALWAYS** form a 90° angle (right angle). See the pictures to the right for the examples of base and height.



FORMULA TO FIND AREA OF A TRIANGLE

$$\text{Area} = \frac{\text{base} \cdot \text{height}}{2} \quad \text{OR} \quad \text{Area} = \frac{1}{2} \text{base} \cdot \text{height}$$

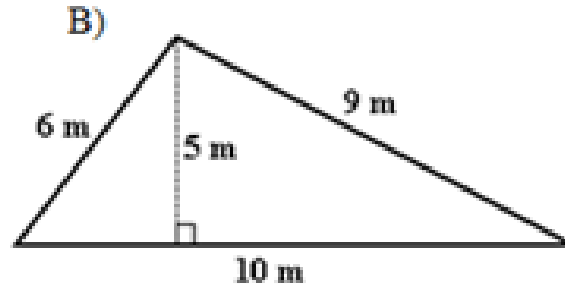
2) Find the area and perimeter of the following triangles. SHOW WORK AND LABEL



$$A = \frac{1}{2}(6)(8)$$
$$P = 6 + 8 + 10$$

Area = 24 ft²

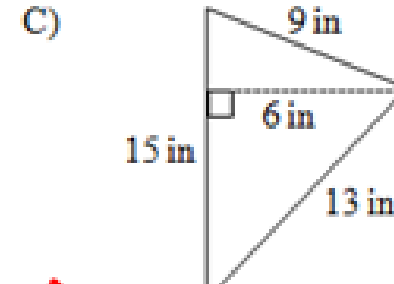
Perimeter = 24 ft



$$A = \frac{1}{2}(5)(10)$$
$$P = 6 + 10 + 9$$

Area = 25 m²

Perimeter = 25 m



$$A = \frac{15 \cdot 6}{2}$$
$$P = 15 + 13 + 9$$

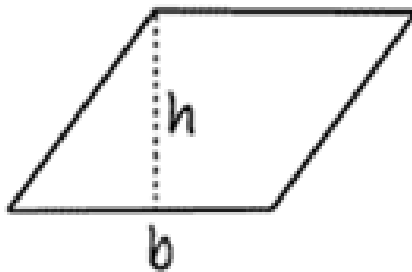
Area = 45 in²

Perimeter = 37 in

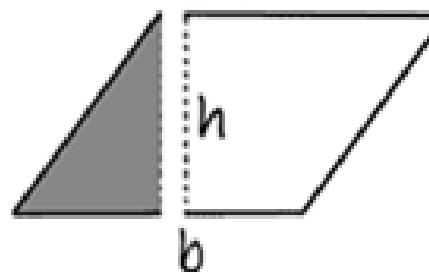
Parallelogram

A parallelogram can be reconstructed to form a rectangle like shown. This results in the formulas to find the area of a parallelogram and a rectangle to be very similar.

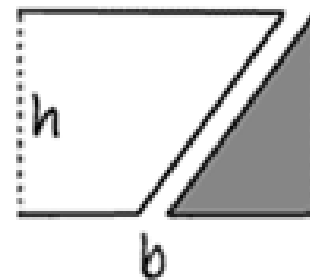
1) Cut along the dashed line.



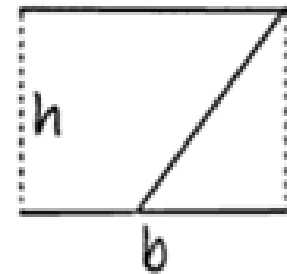
2) Remove triangular section.



3) Place triangular section on opposite side.



4) Rest the triangular shape until it forms a rectangle.

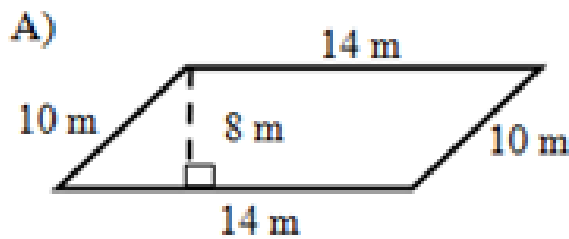


Area of a Parallelogram = base · height

IMPORTANT: The base and the height of a parallelogram form a right angle.

3) Find the area of the following parallelograms. SHOW WORK AND LABEL

Circle the two dimensions form a right angle

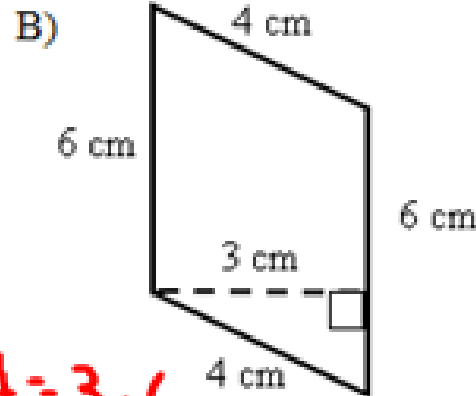


$$A = 8 \cdot 14$$

$$P = 10 + 10 + 14 + 14$$

$$\text{Area} = \underline{112 \text{ m}^2}$$

$$\text{Perimeter} = \underline{48 \text{ m}}$$

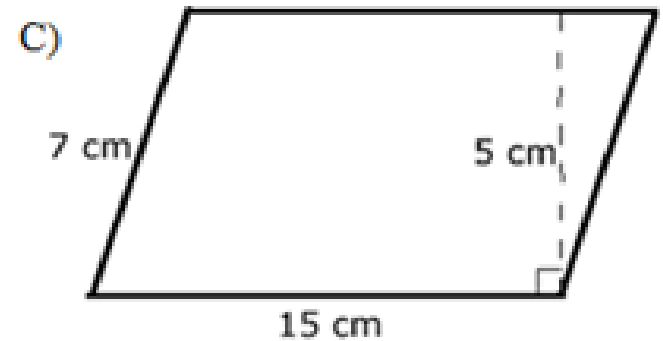


$$A = 3 \cdot 6$$

$$P = 4 + 6 + 4 + 6$$

$$\text{Area} = \underline{18 \text{ cm}^2}$$

$$\text{Perimeter} = \underline{20 \text{ cm}}$$



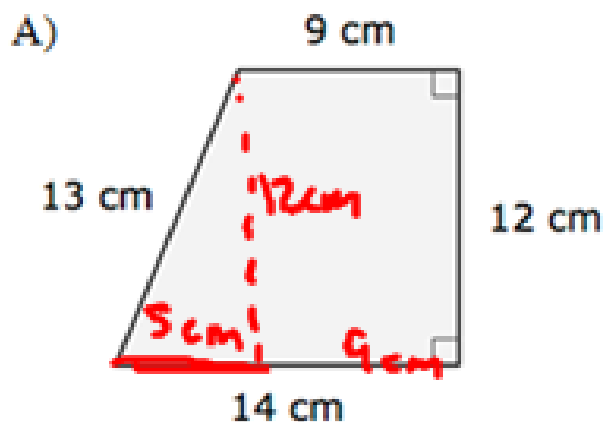
$$\text{Area} = \underline{75 \text{ cm}^2}$$

$$\text{Perimeter} = \underline{44 \text{ cm}}$$

Trapezoids

To find the area of a trapezoid we can break the trapezoid into rectangles and triangles.

4) Find the area of the following trapezoids. **Area of rectangle + Area of Triangle = Area of Trapezoid**

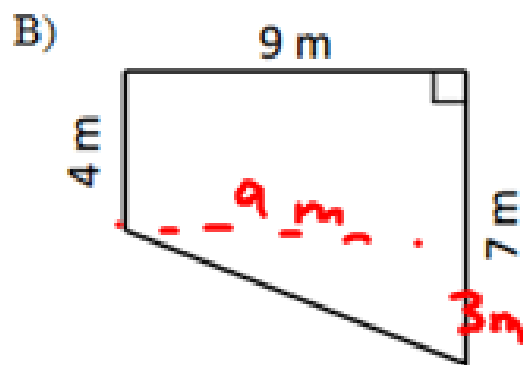


Area = 138 cm²

$$A \text{ of } \square = 12 \cdot 9 = \underline{108 \text{ cm}^2}$$

$$A \text{ of } \triangle = \frac{1}{2}(5)(12) = \underline{30 \text{ cm}^2}$$

$$A = 108 + 30$$

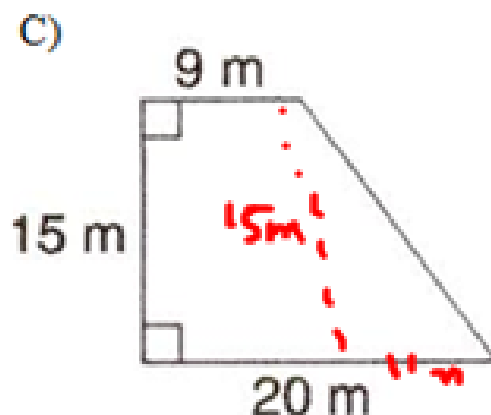


Area = 49.5 m²

$$A \text{ of } \square = 9 \cdot 4 = \underline{36 \text{ m}^2}$$

$$A \text{ of } \triangle = \frac{1}{2} \cdot 3 \cdot 9 = \underline{13.5 \text{ m}^2}$$

$$A = 36 + 13.5 = 49.5 \text{ m}^2$$



Area = 217.5 m²

Area Word Problems

5) A triangular side of the Great Pyramid of Giza has a base that is 230 meters and a height that is 148 meters. What is the area of the side of the pyramid?

6) This piece of paper is 8.5 inches by 11 inches. What is the area of this piece of paper?

7) The screen of an iPad has an area of 54 square inches and a length of 6 inches. What is the width of the iPad?

Area of Polygons on Grids

8) Graph the following points.

Point T (2, -5)

Point O (2, 5)

Point Y (6, -5)

A) If you connect the points, what type of polygon do they form?

Be as specific as possible.

Right Triangle

B) Find the area of polygon that the points formed.

$$A = \frac{1}{2}(10)(4) = 20 \text{ units}^2$$

