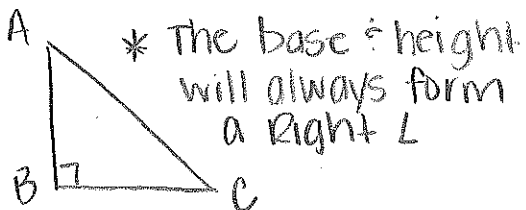


11.2 Areas of Parallelograms and Triangles

Formulas

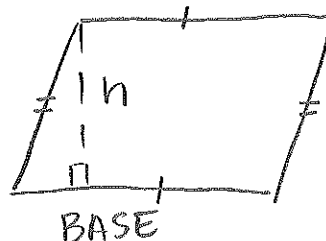
Triangle:

$$A_{Tri} = \frac{1}{2}bh$$

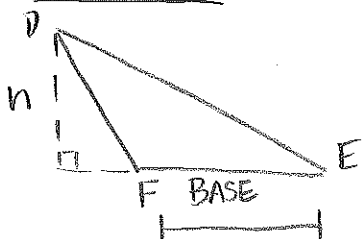


Parallelogram:

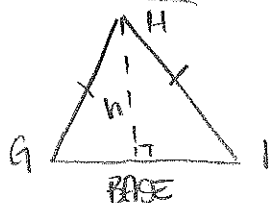
$$A_{parallelogram} = bh$$



Obtuse Δ

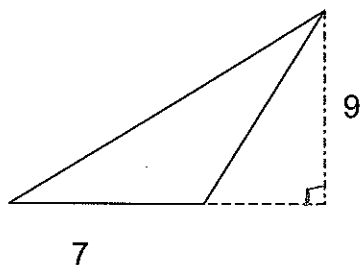


Isosceles Δ



Examples:

The obtuse triangle:



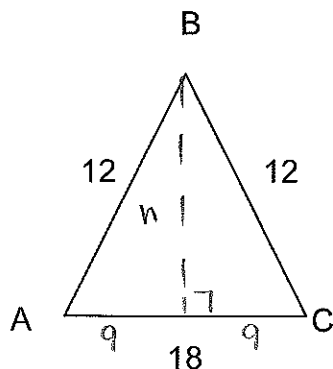
Find the area of the obtuse triangle:

$$A_{Tri} = \frac{1}{2}bh$$

$$= \frac{1}{2}(7)(9)$$

$$A = 63/2 \text{ OR } 31.5$$

The isosceles triangle:



Find the area of the isosceles triangle:

$$h^2 + 9^2 = 12^2$$

$$h^2 + 81 = 144$$

$$h^2 = 63$$

$$h = \sqrt{63}$$

$$= 3\sqrt{7}$$

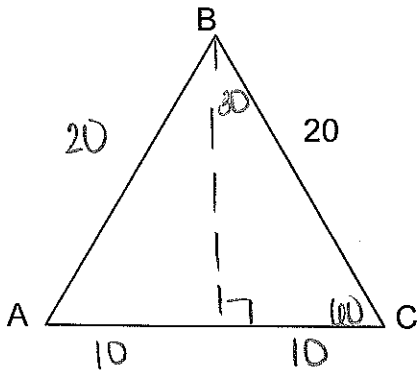
$$A_{Tri} = \frac{1}{2}bh$$

$$= \frac{1}{2}(18)(3\sqrt{7})$$

$$= 9 \cdot 3\sqrt{7}$$

$$= \boxed{27\sqrt{7}}$$

The equilateral triangle:



Find the area of the equilateral triangle:

$$30:60:90$$

$$1:\sqrt{3}:2$$

$$10\sqrt{3}$$

$$A_{TRI} = \frac{1}{2}bh$$

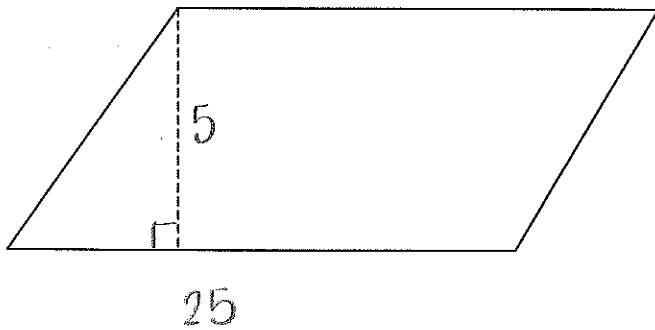
$$= \frac{1}{2}(20)(10\sqrt{3})$$

$$= 10 \cdot 10\sqrt{3}$$

$$= \boxed{100\sqrt{3}}$$

Parallelograms:

Find the area of each parallelogram

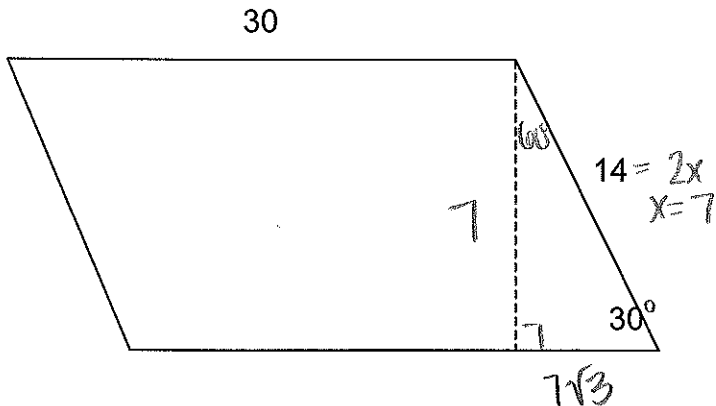


Base = 25 Height = 5

$$A_{PARA} = bh$$

$$= 25(5)$$

$$= \boxed{125}$$



$$A_{PARA} = bh$$

$$= 30(7)$$

$$= \boxed{210}$$