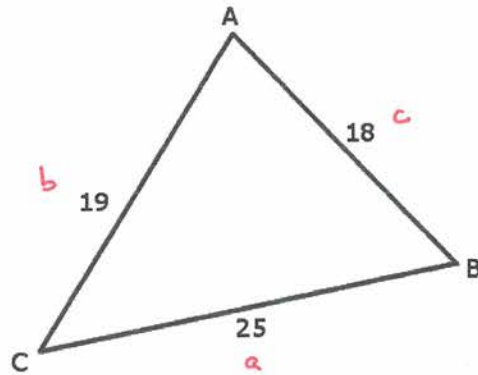


1. Determine the area of the triangle below.
Round your answer to the nearest tenth of a unit.



$$s = \frac{a+b+c}{2}$$

$$= \frac{25 + 19 + 18}{2}$$

$$= \frac{62}{2}$$

$$s = 31$$

$$A_{\Delta} = \sqrt{s(s-a)(s-b)(s-c)}$$

$$= \sqrt{31(31-25)(31-19)(31-18)}$$

$$= \sqrt{31(6)(12)(13)}$$

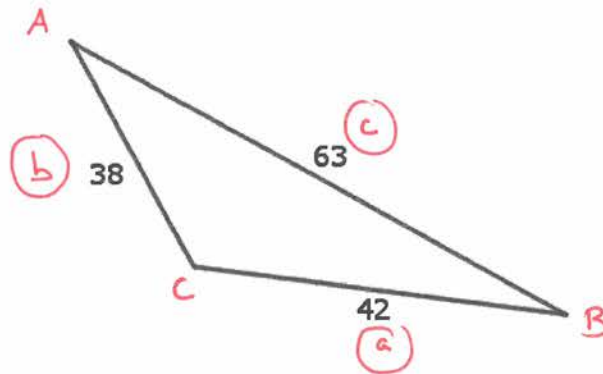
$$= \sqrt{29016}$$

$$= 170.341$$

$$A_{\Delta} \approx 170.3$$

ANSWER:

2. Determine the area of the triangle below.
Round your answer to the nearest tenth of a unit.



$$s = \frac{a + b + c}{2}$$

$$= \frac{42 + 38 + 63}{2}$$

$$= \frac{143}{2}$$

$$s = 71.5$$

$$A_{\Delta} = \sqrt{s(s-a)(s-b)(s-c)}$$

$$= \sqrt{71.5(71.5-42)(71.5-38)(71.5-63)}$$

$$= \sqrt{71.5(29.5)(33.5)(8.5)}$$

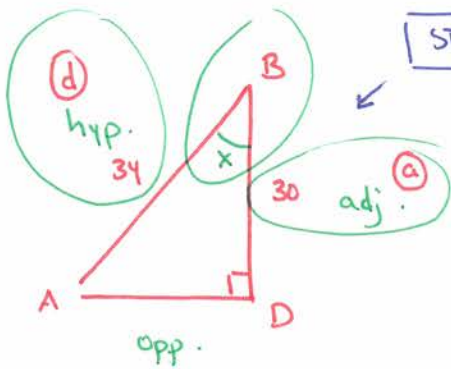
$$= \sqrt{600608.1375}$$

$$= 774.9896$$

$$A_{\Delta} \approx 775.0$$

ANSWER:

3. Determine the area of the complex shape ABCD below.
Round your answer to the nearest integer.



SOH - CAH - TOA.

Have: adj, hyp
Want:

$$\cos C = \frac{\text{adj.}}{\text{hyp}}$$

$$\frac{\cos x}{1} = \frac{30}{34}$$

$$\cos x = \cos^{-1} 0.88235$$

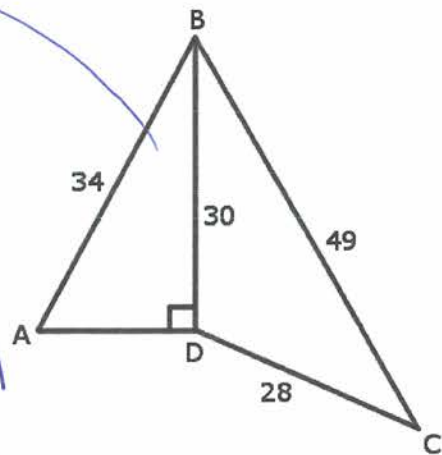
$$x = 28.072^\circ$$

STEP 2

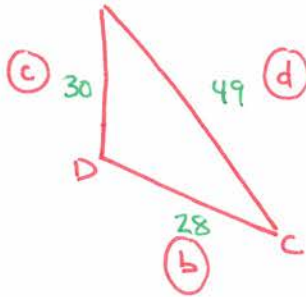
$$A_{\Delta} = \frac{a \cdot d \cdot \sin B}{2}$$

$$= \frac{(30)(34) \cdot \sin 28.072^\circ}{2}$$

$$A_{\Delta} = 240$$



STEP 3



$$s = \frac{b+c+d}{2}$$

$$= \frac{28+30+49}{2}$$

$$= \frac{107}{2}$$

$$s = 53.5$$

$$A_{\Delta} = \sqrt{s(s-b)(s-c)(s-d)}$$

$$= \sqrt{53.5(53.5-28)(53.5-30)(53.5-49)}$$

$$= \sqrt{53.5(25.5)(23.5)(4.5)}$$

$$= \sqrt{144269.4375}$$

$$A_{\Delta} = 379.828$$

STEP 4

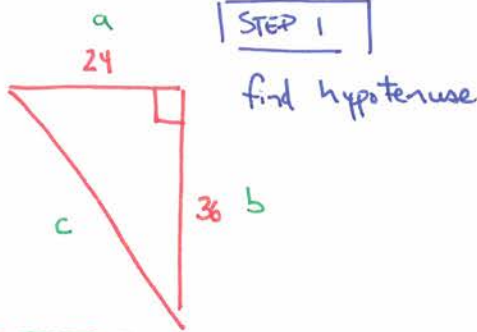
$$A_{TOT} = 240 + 379.828$$

$$= 619.828$$

$$A_{TOT} \approx 620$$

ANSWER:

4. Determine the area of the complex shape ABCD below.
Round your answer to the nearest integer.



$$a^2 + b^2 = c^2$$

$$24^2 + 36^2 = c^2$$

$$576 + 1296 = c^2$$

$$\sqrt{1872} = \sqrt{c^2}$$

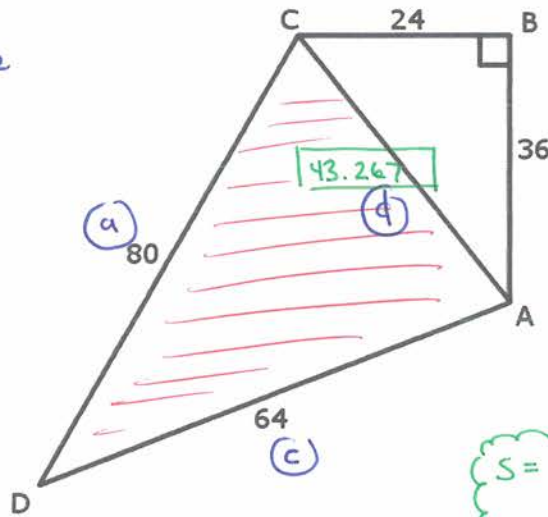
$$43.267 = c \quad \text{hyp.}$$

STEP 2

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

$$= \frac{(24)(36)}{2}$$

$$A_{\Delta} = 432$$



STEP 3

$$s = \frac{a + c + d}{2}$$

$$= \frac{80 + 64 + 43.267}{2}$$

$$= \frac{187.267}{2}$$

$$s = 93.6335$$

$$A_{\Delta} = \sqrt{s(s-a)(s-c)(s-d)}$$

$$= \sqrt{93.6335(93.6335 - 80)(93.6335 - 64)(93.6335 - 43.267)}$$

$$= \sqrt{93.6335(13.6335)(29.6335)(50.3665)}$$

$$= \sqrt{1905299.885}$$

$$A_{\Delta} = 1380.326$$

STEP 4

$$A_{\text{TOT}} = 432 + 1380.326$$

$$= 1812.326$$

$$A_{\text{TOT}} = 1812$$

ANSWER: