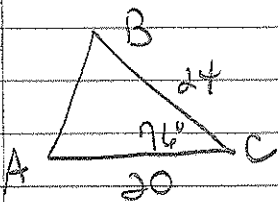


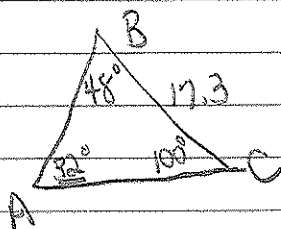
PW#1: Area of Triangles

① SAS



$$K = \frac{1}{2}(24)(20)\sin 76^\circ = \boxed{232.9 \text{ sq units}}$$

② ASA

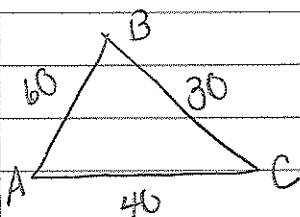


$$\frac{\sin 32^\circ}{17.3} = \frac{\sin 100^\circ}{c}$$

$$c = 32.15$$

$$K = \frac{1}{2}(32.15)(17.3)\sin 48^\circ = \boxed{206.7 \text{ sq units}}$$

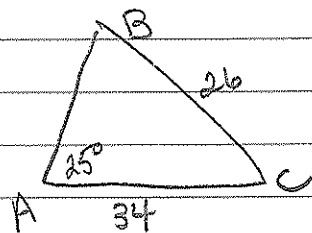
③ SSS



$$s = \frac{1}{2}(30+40+60) = 65$$

$$K = \sqrt{65(65-30)(65-40)(65-60)} = \boxed{538.27 \text{ sq units}}$$

④ **SSA



$$26 \square 34 \sin 25^\circ$$

$$26 > 14.4$$

$$14.4 < 26 < 34$$

2 Δ's

$$\frac{\sin 25^\circ}{26} = \frac{\sin \beta}{34}$$

$$\cancel{\angle B = 34^\circ}$$

$$\cancel{\angle C = 121^\circ}$$

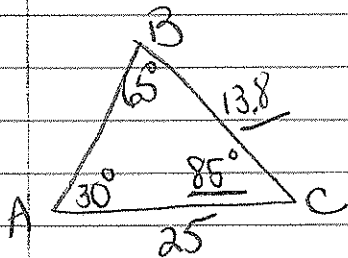
$$\angle B = 146^\circ$$

$$\angle C = 9^\circ$$

$$\text{TRI 1: } K = \frac{1}{2}(34)(26)\sin 121^\circ \approx 399 \text{ sq units}$$

$$\text{TRI 2: } K = \frac{1}{2}(34)(26)\sin 9^\circ \approx 69 \text{ sq units}$$

⑤ AAS

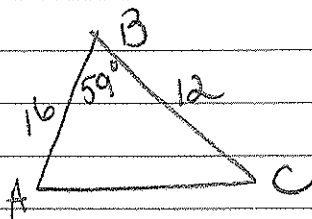


$$\frac{\sin 65^\circ}{25} = \frac{\sin 30^\circ}{a}$$

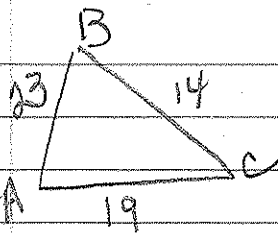
$$a = 13.8$$

$$K = \frac{1}{2}(25)(13.8)\sin 85^\circ = \boxed{171.8 \text{ sq units}}$$

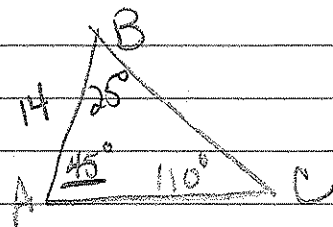
⑥ SAS



$$K = \frac{1}{2}(16)(12)\sin 59^\circ = \boxed{82.3 \text{ sq units}}$$

⑦ SSS  $A = \frac{1}{2}(23+14+19) = 28$

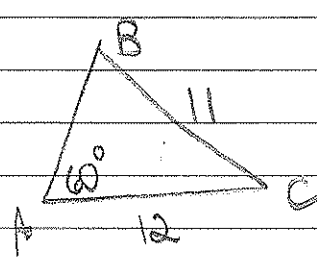
$$K = \sqrt{28(28-23)(28-14)(28-19)} = \sqrt{17640} \approx \boxed{132.82 \text{ sq units}}$$

⑧ AAS 

$$\frac{\sin 110^\circ}{14} = \frac{\sin 25^\circ}{b}$$

$$b = 6.3$$

$$K = \frac{1}{2}(14)(6.3)\sin 45^\circ \approx \boxed{31.23 \text{ sq units}}$$

⑨ **SSA 

|| \square $12 \sin 60^\circ$
|| > 10.4
 $10.4 < 11 < 12$
2 Δ 's

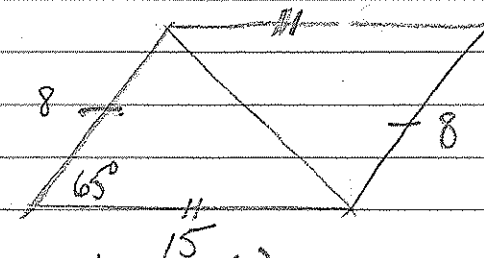
$$\frac{\sin 60^\circ}{12} = \frac{\sin B}{11}$$

$$\angle B = 71^\circ \quad \angle B = 109^\circ$$

$$\angle C = 49^\circ \quad \angle C = 11^\circ$$

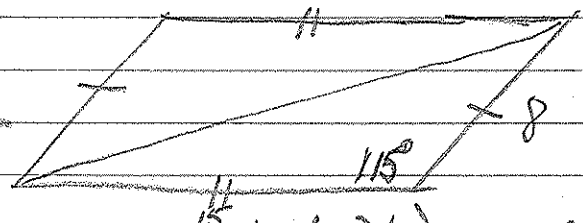
TR1: $K = \frac{1}{2}(12)(11)\sin 49^\circ \approx \boxed{49.8 \text{ sq units}}$

TR2: $K = \frac{1}{2}(12)(11)\sin 11^\circ \approx \boxed{12.6 \text{ sq units}}$

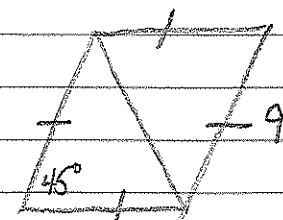
⑩ 

$$K = \frac{1}{2}(15)(8)\sin 65^\circ \approx 54.38 \times 2 \approx \boxed{108.76 \text{ sq units}}$$

OR



$$K = \frac{1}{2}(15)(8)\sin 115^\circ \approx 54.38 \times 2 = \boxed{108.76 \text{ sq units}}$$

⑪ 

$$K = \frac{1}{2}(9)(9)\sin 45^\circ \approx 28.64 \times 2 = \boxed{57.28 \text{ sq unit}}$$