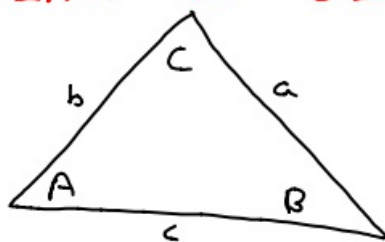
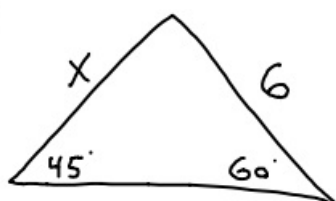


2-1-18 1st Trig
LAW OF SINES



$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

①

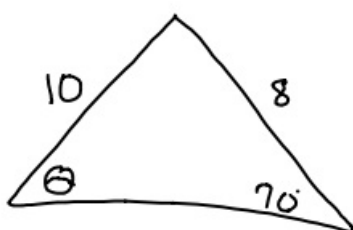


$$\frac{\sin 60}{X} = \frac{\sin 45}{6}$$

$$X \cdot \frac{\cancel{\sin 45}}{\sin 45} = \frac{6 \cdot \sin 60}{\cancel{\sin 45}}$$

$$X \approx 7.3$$

②



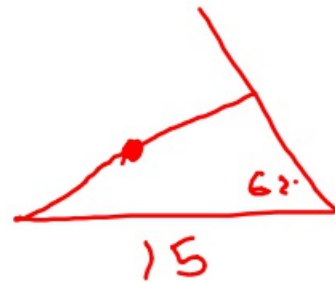
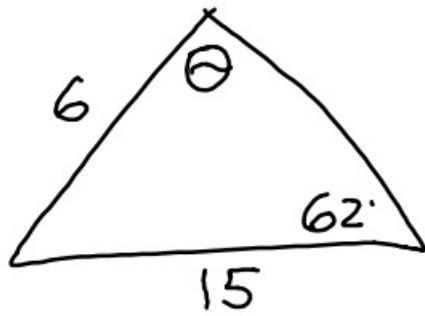
$$\frac{\sin \theta}{8} = \frac{\sin 70}{10}$$

$$\frac{\cancel{10} \cdot \sin \theta}{10} = \frac{8 \cdot \sin 70}{10}$$

$$\sin \theta \approx .751 \dots$$

$$\theta \approx 48.7^\circ$$

③



$$\frac{\sin 62^\circ}{6} = \frac{\sin \theta}{15}$$

$$\cancel{6} \cdot \sin \theta = \frac{15 \cdot \sin 62^\circ}{\cancel{6}}$$

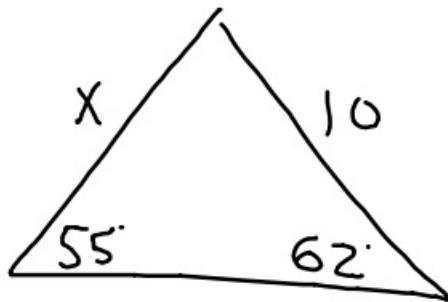
$$\sin^{-1} \sin \theta \approx \sin^{-1} 2.207 \dots$$

$\theta = \text{error}$

2 possibilities ① Δ doesn't exist

② Ambiguous case

④

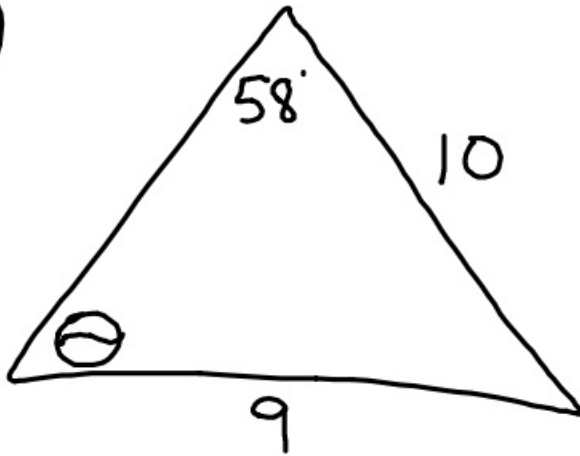


$$\frac{\sin 62^\circ}{X} = \frac{\sin 55^\circ}{10}$$

$$\frac{X \cdot \cancel{\sin 55^\circ}}{\cancel{\sin 55^\circ}} = \frac{10 \cdot \sin 62^\circ}{\sin 55^\circ}$$

$$X \approx 10.8$$

⑤



$$\frac{\sin \theta}{10} = \frac{\sin 58^\circ}{9}$$

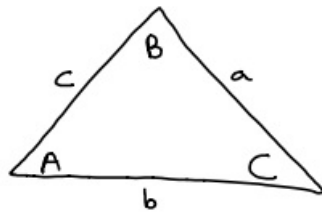
$$\cancel{9} \cdot \sin \theta = \frac{10 \cdot \sin 58^\circ}{9}$$

$$\sin \theta \approx .94$$

$$\theta \approx 70.4^\circ$$

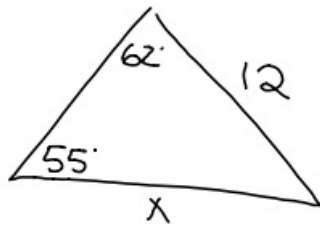
2-1-18 3rd Trig

Law of Sines



$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

①

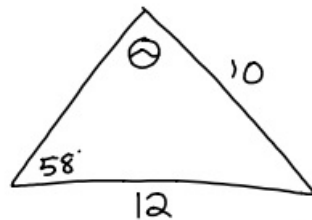


$$\frac{\sin 55^\circ}{12} = \frac{\sin 62^\circ}{x}$$

$$\frac{x \cdot \sin 55^\circ}{\sin 55^\circ} = \frac{12 \cdot \sin 62^\circ}{\sin 55^\circ}$$

$$x \approx 12.9$$

②



$$\frac{\sin \theta}{12} = \frac{\sin 58^\circ}{10}$$

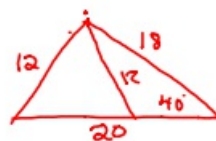
$$\frac{10 \cdot \sin \theta}{10} = \frac{12 \cdot \sin 58^\circ}{10}$$

$$\sin^{-1} \sin \theta = \sin^{-1} 1.017...$$

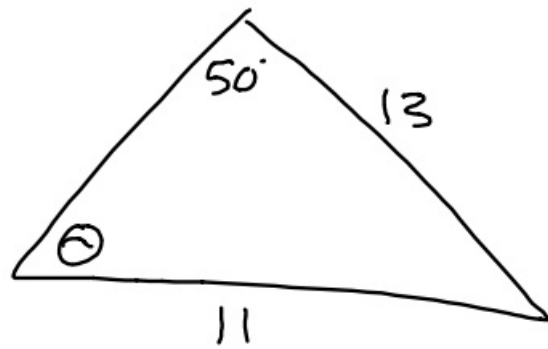
⊖ = error

① Δ doesn't exist

② ambiguous case



③



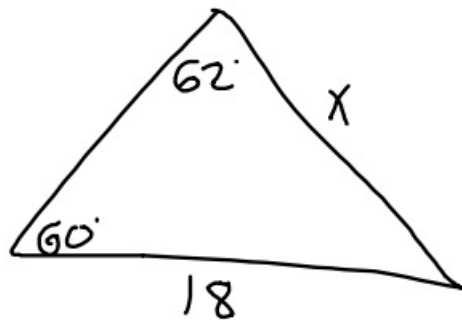
$$\frac{\sin \theta}{13} = \frac{\sin 50}{11}$$

$$\frac{11 \cdot \sin \theta}{11} = \frac{13 \cdot \sin 50}{11}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .9053 \dots$$

$$\theta \approx 64.9^\circ$$

④

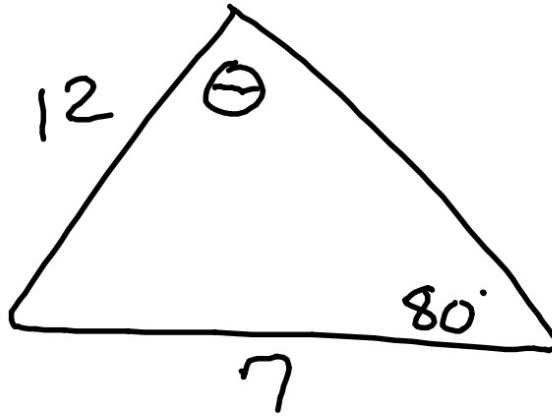


$$\frac{\sin 60^\circ}{X} = \frac{\sin 62^\circ}{18}$$

$$\frac{X \cdot \sin 62^\circ}{\sin 62^\circ} = \frac{18 \cdot \sin 60^\circ}{\sin 62^\circ}$$

$$X \approx 17.7$$

⑤



$$\frac{\sin \theta}{7} = \frac{\sin 80}{12}$$

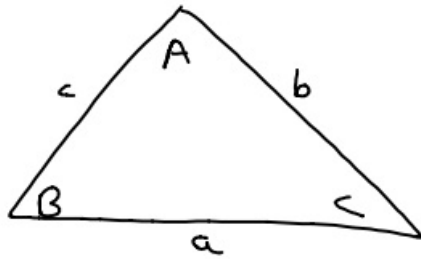
$$\frac{12 \sin \theta}{12} = \frac{7 \cdot \sin 80}{12}$$

$$\sin^{-1} \sin \theta = \sin^{-1} .5745..$$

$$\theta \approx 35.1^\circ$$

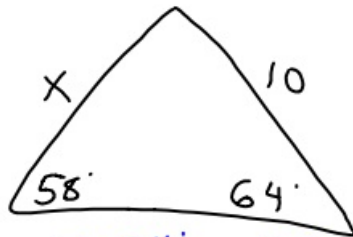
2-1-18 4th Trig

Law of Sines



$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

①

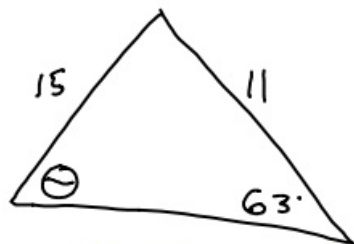


$$\frac{\sin 64^\circ}{X} = \frac{\sin 58^\circ}{10}$$

$$\frac{X \cdot \sin 58^\circ}{\sin 58^\circ} = \frac{10 \cdot \sin 64^\circ}{\sin 58^\circ}$$

$$X \approx 10.6$$

②



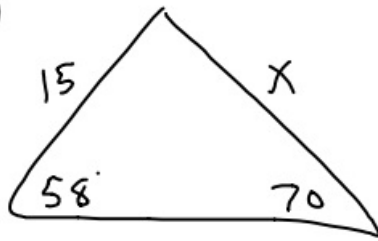
$$\frac{\sin \theta}{11} = \frac{\sin 63^\circ}{15}$$

$$\frac{15 \cdot \sin \theta}{15} = \frac{11 \cdot \sin 63^\circ}{15}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .6534$$

$$\theta \approx 40.8^\circ$$

③

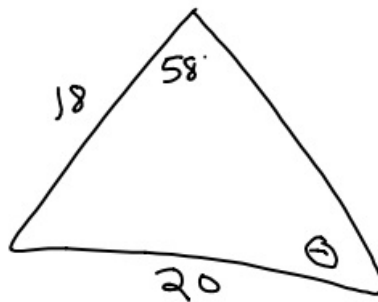


$$\frac{\sin 58}{X} = \frac{\sin 70}{15}$$

$$\frac{X \cdot \cancel{\sin 70}}{\cancel{\sin 70}} = \frac{15 \cdot \sin 58}{\sin 70}$$

$$X \approx 13.5$$

④

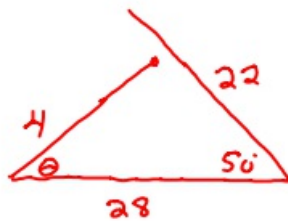


$$\frac{\sin \theta}{18} = \frac{\sin 58}{20}$$

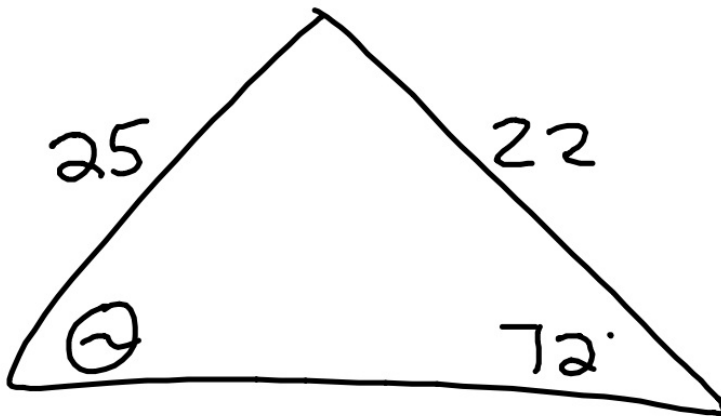
$$\frac{\cancel{20} \cdot \sin \theta}{\cancel{20}} = \frac{18 \cdot \sin 58}{20}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .7632 \dots$$

$$\cdot \theta = 49.8^\circ$$



⑤



$$\frac{\sin \theta}{22} = \frac{\sin 72^\circ}{25}$$

$$\frac{25 \cdot \sin \theta}{25} = \frac{22 \cdot \sin 72^\circ}{25}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .837$$

$$\theta \approx 56.8^\circ$$