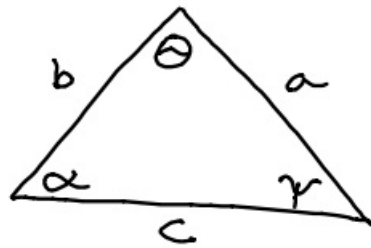
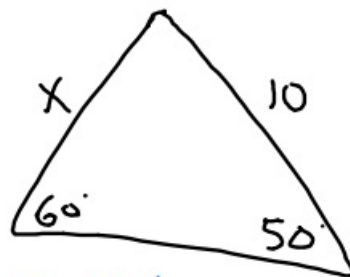


2-19-20 1st Trig



$$\frac{\sin \theta}{c} = \frac{\sin \alpha}{a} = \frac{\sin \gamma}{b}$$

①

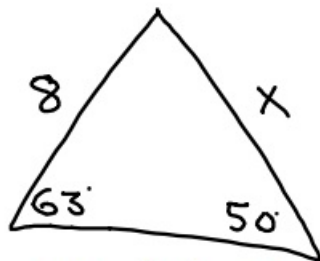


$$\frac{\sin 50^\circ}{X} = \frac{\sin 60^\circ}{10}$$

$$\frac{X \cdot \cancel{\sin 60^\circ}}{\cancel{\sin 60^\circ}} = \frac{10 \cdot \sin 50^\circ}{\sin 60^\circ}$$

$$X \approx 8.8$$

②

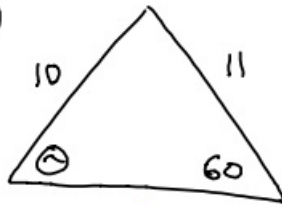


$$\frac{\sin 50^\circ}{8} = \frac{\sin 63^\circ}{X}$$

$$\frac{X \cdot \cancel{\sin 63^\circ}}{\cancel{\sin 63^\circ}} = \frac{8 \cdot \sin 63^\circ}{\sin 50^\circ}$$

$$X \approx 9.3$$

③



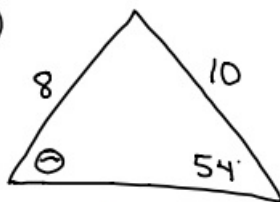
$$\frac{\sin \theta}{11} = \frac{\sin 60^\circ}{10}$$

$$\frac{10 \cdot \sin \theta}{10} = \frac{11 \cdot \sin 60^\circ}{10}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .9526 \dots$$

$$\theta \approx 72.3^\circ$$

④



$$\frac{\sin \theta}{10} = \frac{\sin 54^\circ}{8}$$

$$\frac{8 \cdot \sin \theta}{8} = \frac{10 \cdot \sin 54^\circ}{8}$$

$$\sin \theta \approx 1.0112$$

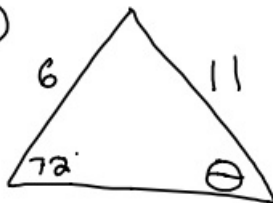
Error



$$\sin \theta = \frac{\text{opp.}}{\text{hyp}}$$

Can opp > hyp?

⑤



$$\frac{\sin \theta}{6} = \frac{\sin 72^\circ}{11}$$

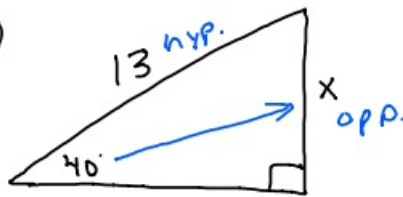
$$\frac{11 \cdot \sin \theta}{11} = \frac{6 \cdot \sin 72^\circ}{11}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .5187 \dots$$

$$\theta \approx 31.3^\circ$$

Chapter 8 Review

①



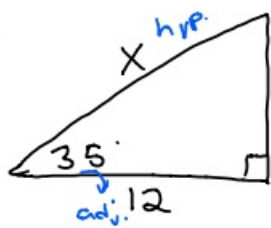
SOH
CAH
TOA

$$\frac{\sin 40^\circ}{1} = \frac{x}{13}$$

$$x = 13 \cdot \sin 40^\circ$$

$$x \approx 8.4$$

②



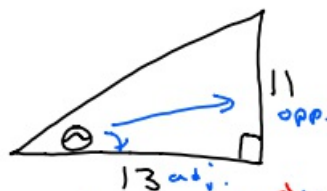
SOH
CAH
TOA

$$\frac{\cos 35^\circ}{1} = \frac{12}{x}$$

$$\frac{x \cdot \cos 35^\circ}{\cos 35^\circ} = \frac{12}{\cos 35^\circ}$$

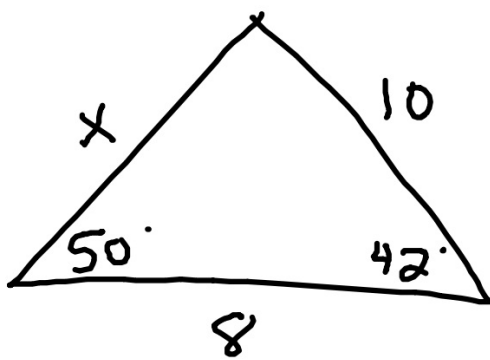
$$x \approx 14.6$$

③



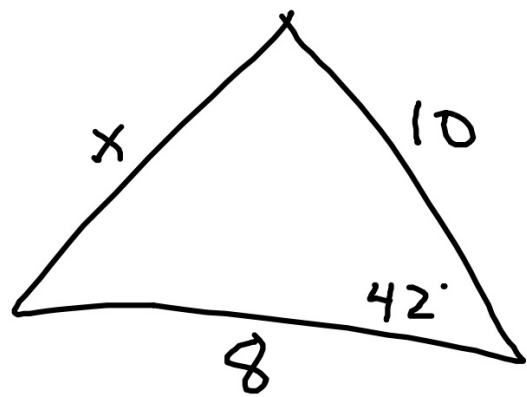
$$\tan^{-1} \tan \theta = \tan^{-1} \frac{11}{13}$$

$$\theta \approx 40.2^\circ$$



2 angles

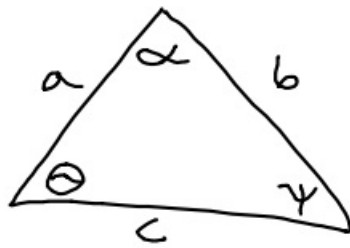
Law of Sines



1 angle

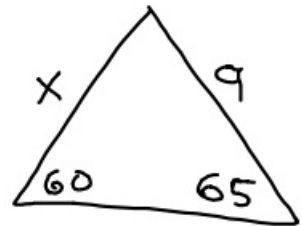
Law of Cosines

2-19-20 3rd Trig



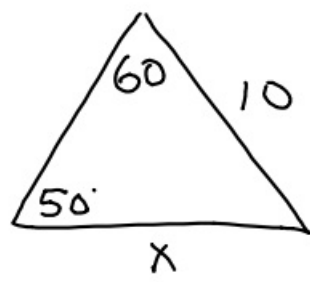
$$\frac{\sin \beta}{b} = \frac{\sin \alpha}{c} = \frac{\sin \gamma}{a}$$

①



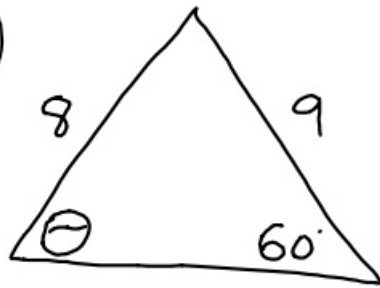
$$\frac{\sin 60}{9} = \frac{\sin 65}{x}$$
$$x \cdot \frac{\sin 60}{\cancel{\sin 60}} = \frac{9 \cdot \sin 65}{\sin 60}$$
$$x \approx 9.4$$

②



$$\frac{\sin 50}{10} = \frac{\sin 60}{x}$$
$$x \cdot \frac{\sin 50}{\cancel{\sin 50}} = \frac{10 \cdot \sin 60}{\sin 50}$$
$$x \approx 11.3$$

③



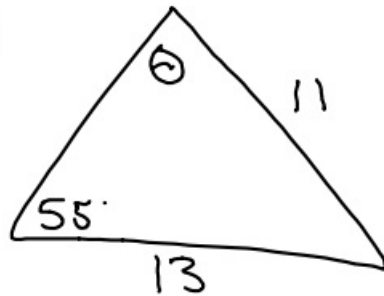
$$\frac{\sin 60^\circ}{8} = \frac{\sin \theta}{9}$$

$$8 \cdot \sin \theta = 9 \cdot \sin 60^\circ$$

$$\sin^{-1} \sin \theta = \sin^{-1} .97 \dots$$

$$\theta \approx 77.0^\circ$$

④



$$\frac{\sin 55^\circ}{11} = \frac{\sin \theta}{13}$$

$$11 \cdot \sin \theta = 13 \cdot \sin 55^\circ$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .968 \dots$$

$$\theta \approx 75.5^\circ$$

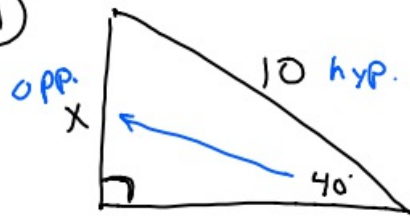


$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\text{opp} < \text{hyp}$$

$$\frac{\text{opp}}{\text{hyp}} < 1$$

①



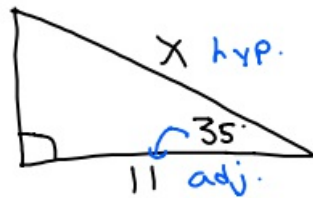
SOH
CAH
TOA

$$\frac{\sin 40^\circ}{1} = \frac{x}{10}$$

$$x = 10 \cdot \sin 40^\circ$$

$$x \approx 6.4$$

②

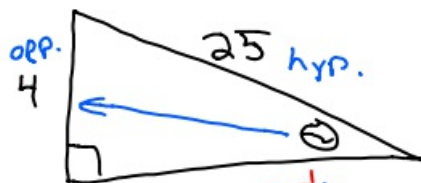


$$\frac{\cos 35^\circ}{1} = \frac{11}{x}$$

$$\frac{x \cdot \cos 35^\circ}{\cancel{\cos 35^\circ}} = \frac{11}{\cancel{\cos 35^\circ}}$$

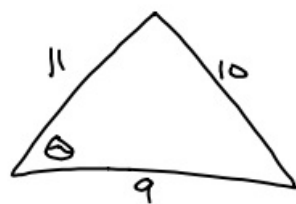
$$x \approx 13.4$$

③



$$\cancel{\sin^{-1}} \sin \theta = \frac{\sin^{-1} 4}{25}$$

$$\theta \approx 9.2^\circ$$



1 angle
Law of Cosines



2 angles
Law of Sines