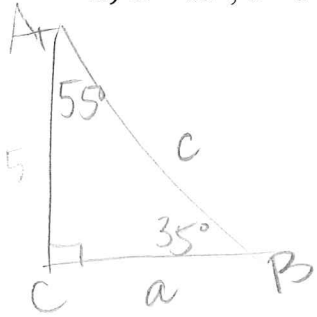


4.1 - Solving Right Triangles

Solve each right triangle so that angle C is the right angle. If necessary, round answers to the nearest hundredths.

1.) $B = 35^\circ, b = 5$

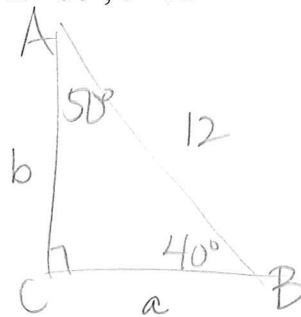


$$\begin{aligned} A &= 55^\circ \\ a &= 7.14 \\ c &= 8.72 \end{aligned}$$

$$\tan 55^\circ = \frac{a}{5}$$

$$\sin 35^\circ = \frac{5}{c}$$

2.) $A = 50^\circ, c = 12$



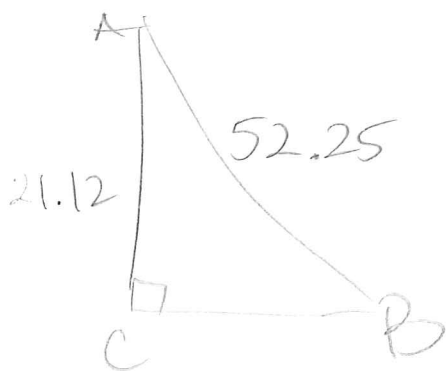
$$\begin{aligned} B &= 40^\circ \\ a &= 9.19 \\ b &= 7.71 \end{aligned}$$

$$\sin 40^\circ = \frac{b}{12}$$

$$\cos 40^\circ = \frac{a}{12}$$

3.) $b = 21.12, c = 52.25$

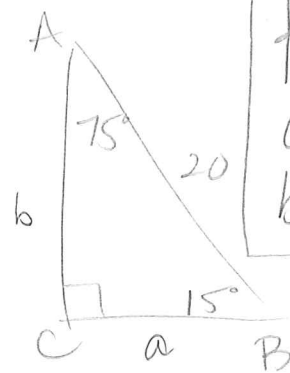
$$a^2 + 21.12^2 = 52.25^2$$



$$\begin{aligned} a &= 47.79 \\ A &= 66.16^\circ \\ B &= 23.84^\circ \end{aligned}$$

$$\sin B = \frac{21.12}{52.25}$$

4.) $A = 75^\circ, c = 20$

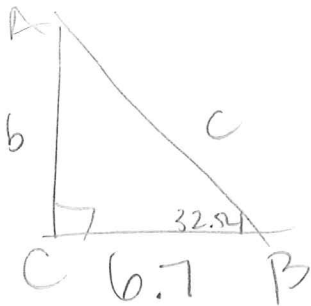


$$\begin{aligned} B &= 15^\circ \\ a &= 19.32 \\ b &= 5.18 \end{aligned}$$

$$\sin 75^\circ = \frac{a}{20}$$

$$\cos 75^\circ = \frac{b}{20}$$

5.) $B = 32.54^\circ, a = 6.7$



$$A = 57.46^\circ$$

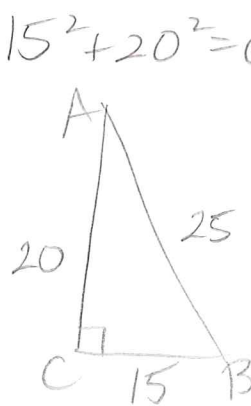
$$b = 4.28$$

$$c = 7.95$$

$$\tan 32.54^\circ = \frac{b}{6.7}$$

$$\cos 32.54^\circ = \frac{6.7}{c}$$

6.) $a = 15, b = 20$



$$15^2 + 20^2 = c^2$$

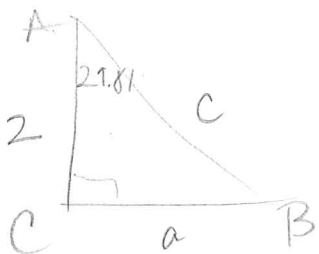
$$A = 36.87^\circ$$

$$B = 53.13^\circ$$

$$c = 25$$

$$\sin A = \frac{15}{25}$$

7.) $A = 29.81^\circ, b = 2$



$$B = 60.19^\circ$$

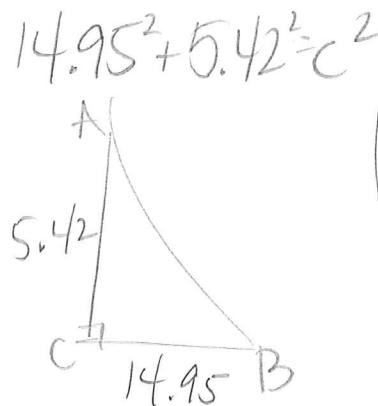
$$a = 1.15$$

$$c = 2.31$$

$$\tan 29.81^\circ = \frac{a}{2}$$

$$\cos 29.81^\circ = \frac{2}{c}$$

8.) $a = 14.95, b = 5.42$



$$14.95^2 + 5.42^2 = c^2$$

$$A = 70.07^\circ$$

$$B = 19.93^\circ$$

$$c = 15.90$$

$$\tan A = \frac{14.95}{5.42}$$