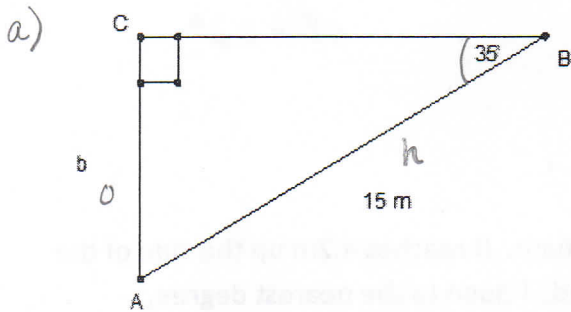


HOMEWORK: Sine Ratio (Sides & Angles)

Date: Solutions

- Use a calculator to find each value to four decimal places.
 - $\sin 88^\circ$
 - $\sin 45^\circ$
 - $\sin 10^\circ$
 - $\sin 114^\circ$
- Use a calculator to find the measure of each angle A to the nearest degree. (Use \sin^{-1})
 - $\sin A = 0.7777$
 - $\sin A = 0.2861$
 - $\sin A = .1234$
 - $\sin A = .5678$

3. Find the missing side rounded to 1 decimal place.

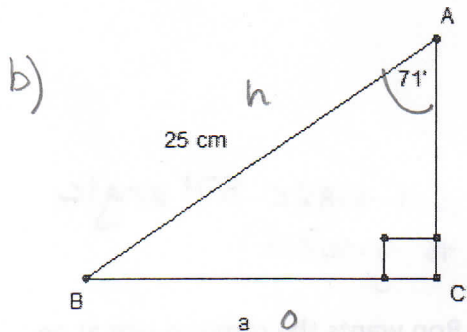


$$\sin = \frac{o}{h}$$

$$\sin 35^\circ = \frac{b}{15}$$

$$15 \sin 35^\circ = b$$

$$\boxed{8.6 = b}$$

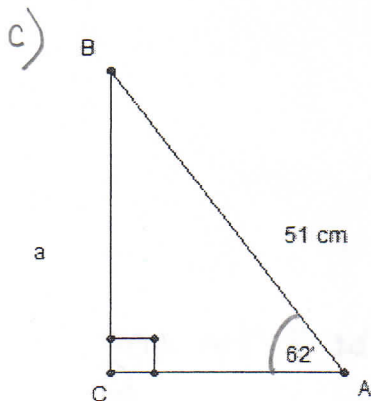


$$\sin = \frac{o}{h}$$

$$\sin 71^\circ = \frac{a}{25}$$

$$25 \sin 71^\circ = a$$

$$\boxed{23.6 = a}$$



$$\sin = \frac{o}{h}$$

$$\sin 62^\circ = \frac{a}{51}$$

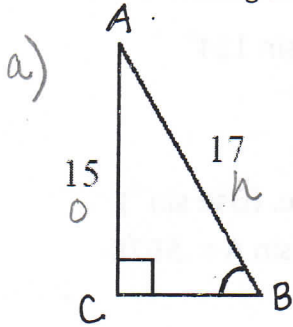
$$51 \sin 62^\circ = a$$

$$\boxed{45.0 = a}$$

HOMEWORK: Sine Ratio (Sides & Angles)

Date: _____

4. Find the missing angle. Round your answer to the nearest degree.

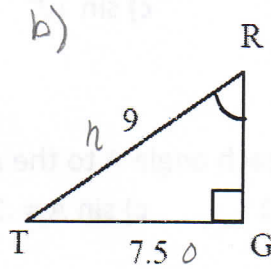


$$\sin = \frac{o}{h}$$

$$\sin B = \frac{15}{17}$$

$$\angle B = \sin^{-1}\left(\frac{15}{17}\right)$$

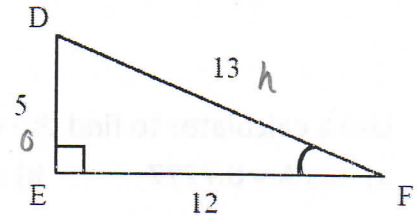
$$\angle B = 62^\circ$$



$$\sin R = \frac{7.5}{9}$$

$$\angle R = \sin^{-1}\left(\frac{7.5}{9}\right)$$

$$\angle R = 56^\circ$$

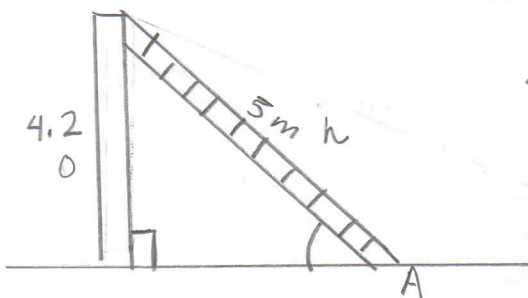


$$\sin F = \frac{5}{13}$$

$$\angle F = \sin^{-1}\left(\frac{5}{13}\right)$$

$$\angle F = 23^\circ$$

5. A ladder that is 5m long is leaning up against the side of a barn. It reaches 4.2m up the side of the barn wall. Find the angle the ladder makes with the ground. Round to the nearest degree.



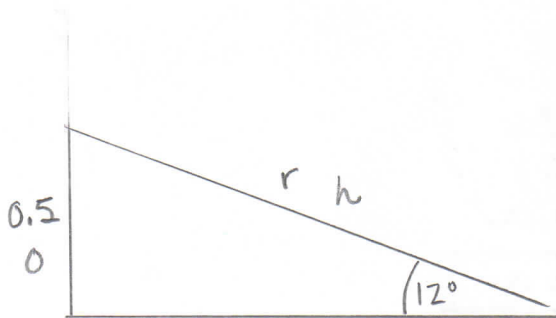
$$\sin A = \frac{4.2}{5}$$

$$\angle A = \sin^{-1}\left(\frac{4.2}{5}\right)$$

$$\angle A = 57^\circ$$

\therefore ladder will make 57° angle to ground.

6. Ron is building a skateboard ramp for his granddaughter Alexis. Ron wants the ramp to rise at an angle of 12° . He also wants the ramp to be 0.5m high from the ground. How long will the ramp need to be?



$$\sin 12^\circ = \frac{0.5}{r}$$

$$\frac{r \sin 12^\circ}{\sin 12^\circ} = \frac{0.5}{\sin 12^\circ}$$

$$r = 2.4 \text{ m}$$

\therefore ramp will be 2.4m long.