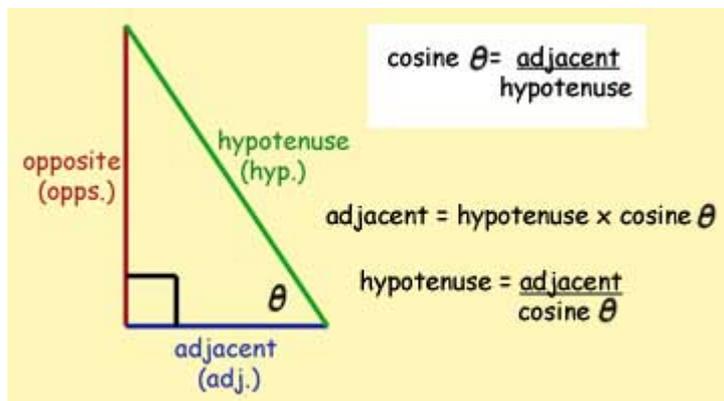
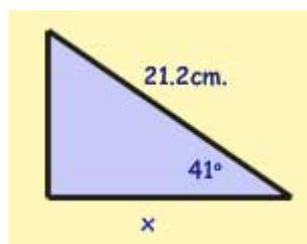


The Cosine Ratio

Method for problems:

- write out the ratio putting in the values for the given sides and/or angle.
- put a '1' under the sine/cos/tan
- cross multiply (top left by bottom right = top right by bottom left)
- make the 'unknown' the subject of the equation

Example #1

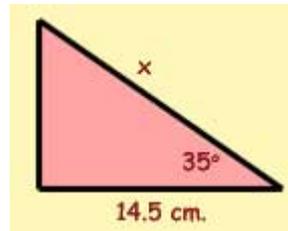
$$\frac{\cos 41^\circ}{1} = \frac{x}{21.2}$$

$$x = 21.2 \times \cos 41^\circ$$

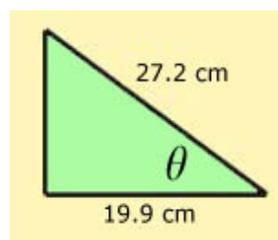
$$= 21.2 \times 0.7547$$

$$= 15.9996$$

$$\underline{x = 16.00 \text{ cm (2 d.p.)}}$$

Example #2

$$\begin{aligned}\frac{\cos 35^\circ}{1} &= \frac{14.5}{x} \\ x \cos 35^\circ &= 14.5 \\ x &= \frac{14.5}{\cos 35^\circ} \\ &= \frac{14.5}{0.8192} \\ &= 17.7001 \\ x &= \underline{17.70} \text{ (2 d.p.)}\end{aligned}$$

Example #3

$$\begin{aligned}\frac{\cos \theta}{1} &= \frac{19.9}{27.2} \\ &= 0.7316 \\ \theta &= 0.7232 \\ &= 42.9793^\circ \\ &= \underline{42.98^\circ} \text{ (2 d.p.)}\end{aligned}$$

