$$x^2 + 5x + 6 \qquad x(6)$$
$$= (x+3)(x+2) \qquad +(5)$$
$$3, 2$$

either $x + 3 = 0$ or $x + 2 = 0$

$x = -3$ $\qquad$ $x = -2$

$SS\{-3, -2\}$

Question numbers ☐ Show answers
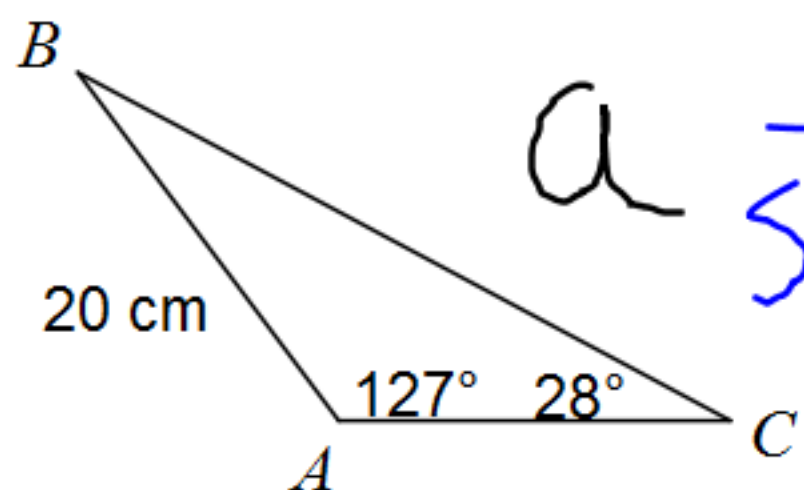Directions ☑ Changing questions hides answers More like these ← Jump → 1-up
Lines Zoom:

Find each measurement indicated. Round your answers to the nearest tenth.

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

9) Find BC

20 cm
127°   28°

$$a \quad \frac{b}{\sin 25°} = \frac{20}{\sin 28°}$$

$\angle A = 127°$ $a = 34 \text{ cm}$
$\angle B = 25°$ $b = 18 \text{ cm}$
$\angle C = 28°$ $c = 20 \text{ cm}$

$$b \sin 28° = 20 \sin 25°$$
$$\frac{b \sin 28°}{\sin 28°} = \frac{20 \sin 25°}{\sin 28°} \quad b = 18.0$$

$$a^2 = b^2 + c^2 - 2bc(\cos 127°)$$

$$a^2 = 18^2 + 20^2 - 2(18)(20)(\cos 127°)$$

$$\sqrt{a^2} = \sqrt{1157.3}$$

$$a = 34$$

☑ Question numbers   ☐ Show answers
☑ Directions   ☑ Changing questions hides answers   More like these   ←   Jump   →   1-up
☑ Lines   Zoom:

Find each measurement indicated. Round your answers to the nearest tenth.

10) Find $m\angle C$

A

90°   17 cm

C   27 cm   B

$39^{.0}$

$\sin C = \dfrac{O}{H}$
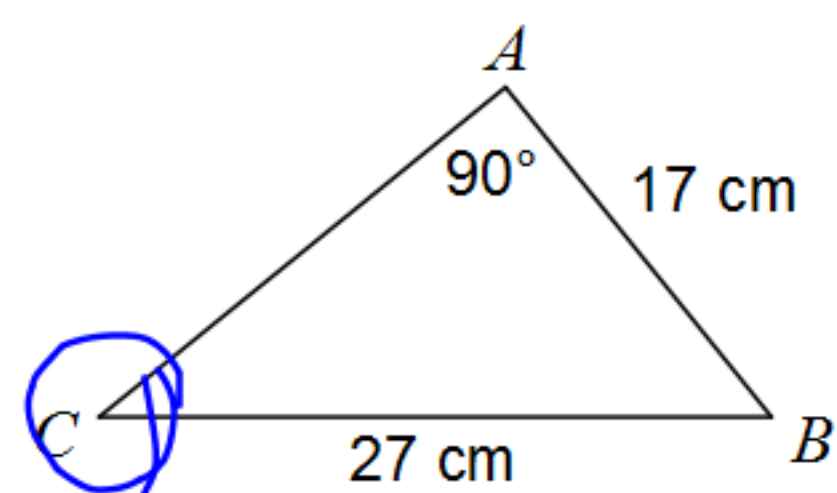
$\sin C = \dfrac{17}{27}$

$\sin^{-1} C = 0.6296$

$C = 39°$

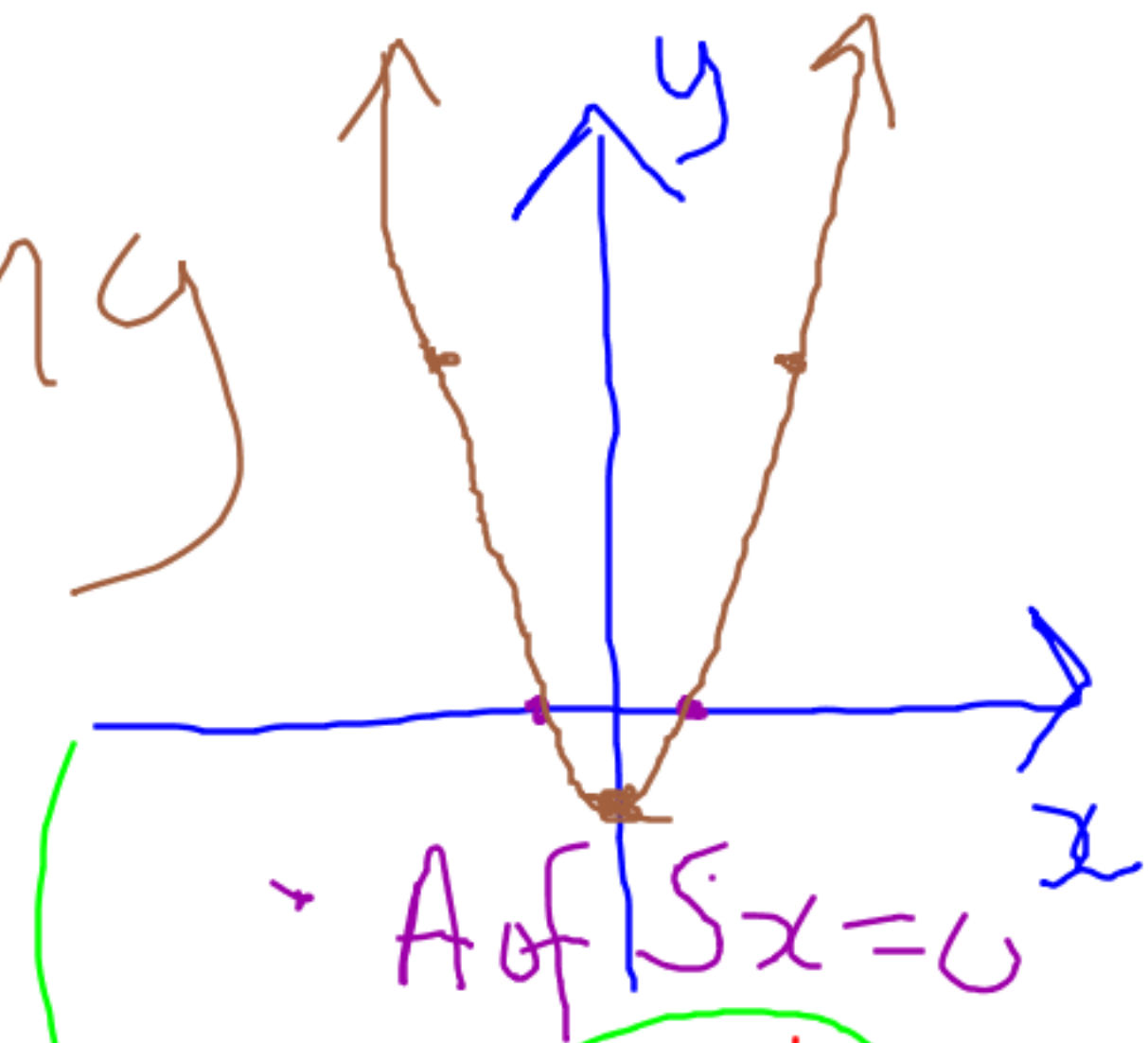# Quadratics Review   June 2

Factoring + Graphing

$x^2 - 1 = 0$

$(x+1)(x-1) = 0$

either $x + 1 = 0$ or $x - 1 = 0$

$x = -1$ $x = 1$

$SS \{ -1, 1 \}$

A of S $x = 0$

$\bullet$ min

same size

Vertex $= (0, -1)$

5. A wire attached to the top of a pole reaches a stake in the ground 20 feet from the foot of the pole and makes an angle of 58° with the ground. Find the length of the wire.

∴ the wire is 37.7 ft

x 37.7 ft

h

20 ft

$\cos x = \frac{20}{H}$

$\cos 58 = \frac{20}{x}$

$\frac{x \cos 58}{\cos 58} = \frac{20}{\cos 58}$

$x = 37.74$ ft

6. Henry is flying a kite. The kite string makes an angle of 43° with the ground. If Henry is standing 100 feet from a point on the ground directly below the kite, find the length of the kite string.

x

43°

100 ft

$\cos 43 = \frac{A}{H}$

$\cos 43 = \frac{100}{x}$

$\frac{x \cos 43}{\cos 43} = \frac{100}{\cos 43}$

∴ The kite string is

$x = 136.7$ ft

7. A 25 foot ladder leans against a building. The ladder's base is 13.5 feet from the building. Find the angle which the ladder makes with the ground.

7. A 25 foot ladder leans against a building. The ladder's base is 13.5 feet from the building. Find the angle which the ladder makes with the ground.
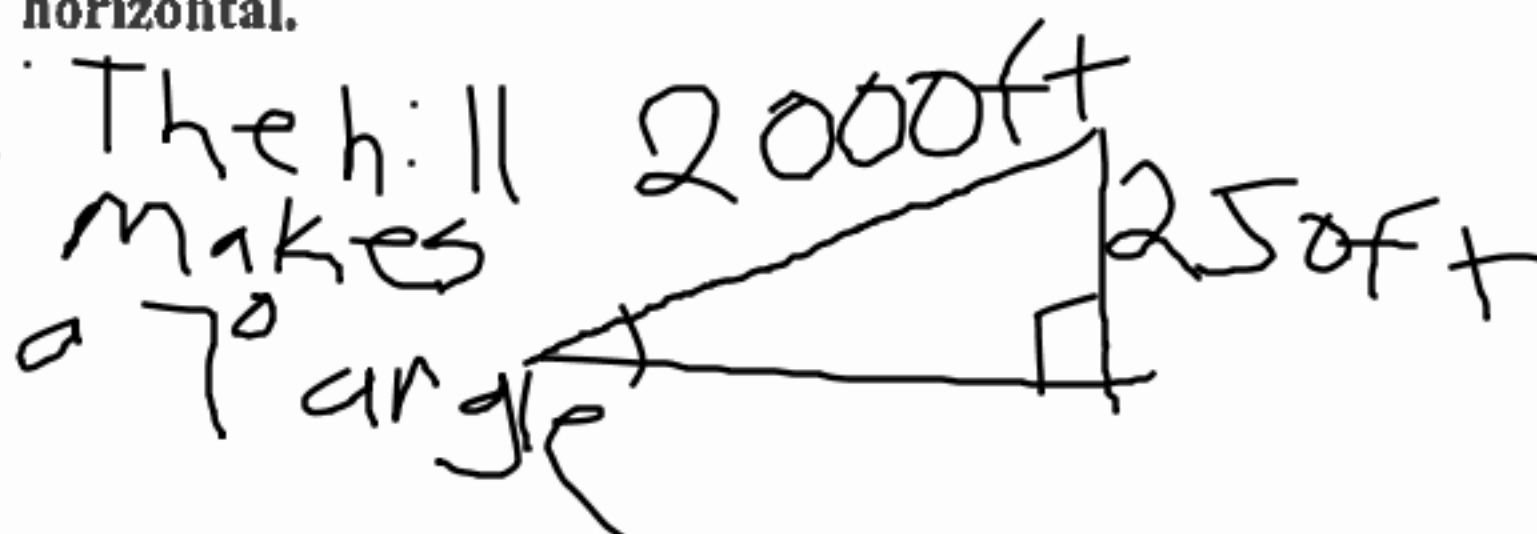
$$\cos X = 0.54$$

$$\cos x = \frac{a}{H}$$

$$\cos X = \frac{13.5}{25}$$

$$\rightarrow X = 57$$

The ladder will make a 57° with the round.

(handwritten triangle labeled 25 ft, x, 13.5 ft)

8. In order to reach the top of a hill which is 250 feet high, one must travel 2000 feet straight up a road which leads to the top. Find the number of degrees contained in the angle which the road makes with the horizontal.

∴ The hill makes a 7° angle

(handwritten triangle labeled 2000 ft, 250 ft)

$$\sin X = 0$$

$$\sin x = \frac{H}{250}$$

$$\sin x = \frac{H}{2000}$$

$$\sin x = 0.1250$$

$$\sin^{-1} x = 7$$

9. A ladder leans against a building. The top of the ladder reaches a point on the building which is 18 feet above the ground. The foot of the ladder is 7 feet from the building. Find the measure of the angle which the ladder makes with the level ground.