

Example 2 Use Special Right Triangles to Find Trigonometric Ratios

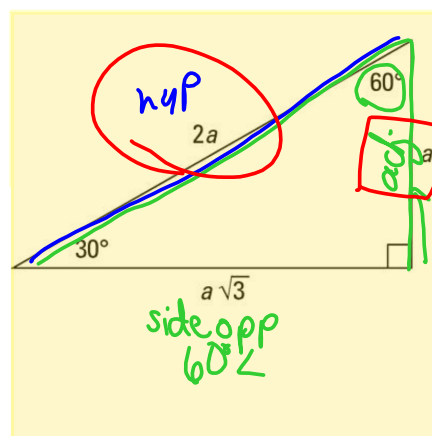
Use a special right triangle to express the cosine of 60° as a fraction and as a decimal to the nearest hundredth.

SOH CAH TOA

$$\textcircled{2} \cos 60^\circ = \frac{a}{2a}$$

$$\cos 60^\circ = \frac{1}{2}$$

$$\cos 60^\circ = .5$$

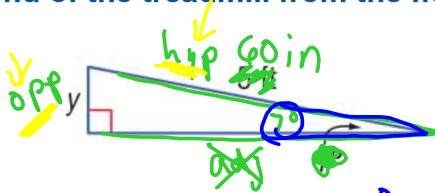


Real-World Example 3

Estimate Measures Using
Trigonometry

EXERCISING A fitness trainer sets the incline on a treadmill to 7° . The walking surface is 5 feet long. Approximately how many inches did the trainer raise the end of the treadmill from the floor?

③



$$y = 60 \sin 7^\circ$$

$$y \approx 7.31 \text{ in}$$

Find Missing Side

$$5 \text{ ft} = 60 \text{ in}$$

$$5 \text{ ft} \cdot \frac{12 \text{ in}}{1 \text{ ft}} = 60 \text{ in}$$

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$$\sin 7^\circ = \frac{y}{60}$$

$$|y = 60 \sin 7^\circ$$

KEYSTROKES: 60 SIN (7) ENTER 7.312160604

The treadmill is about 7.31 in high.

Now do worksheet:

"HW4W (3) Find the Missing Side"