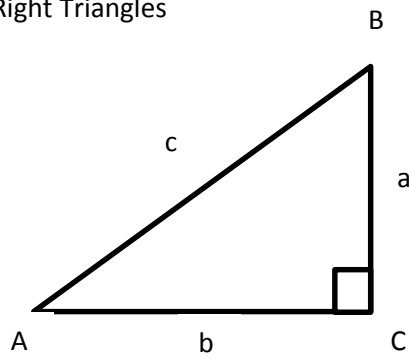Example Applications

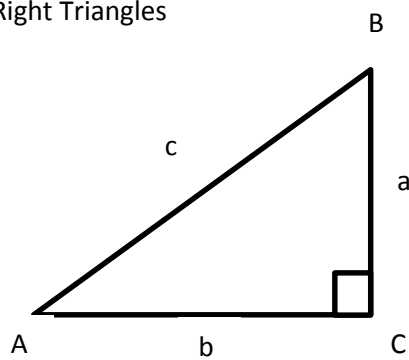Right Triangles   B

c

a

A   b   C

SOH CAH TOA

$$A = 23.5°$$
$$b = 10$$

Right Triangles   B

c

a

A   b   C

SOH CAH TOA

$$a = 14.5$$
$$b = 24.1$$

Right Triangles

A hotair balloon rises vertically and the angle of elevation changes from 19.2° to 31.7°. The point on level ground is 125 ft from the point directly under the passenger compartment. How far, to the nearest tenth of a foot does the balloon rise?

Bearings -

A jet leaves a runway whose bearing is N35°E from the control tower. After flying 5 miles the jet turns 90° and flies on a bearing of S55°E for 7 miles. At that time, what is the bearing to the control tower?

A boat leaves a harbor on bearing N41°W and travels 120 miles. How many miles north and howmany miles west has the boat traveled?

A jet leaves a runway whose bearing is N35°E from the control tower. After flying 5 miles the jet turns 90° and flies on a bearing of S55°E for 6 miles. At that time, what is the bearing to the control tower?

Simple Harmonic Motion

$$d = -5\cos\frac{\pi}{3}t$$

maximum displacement

frequency

time required for one cycle

A ball on a spring is pulled 7 inches below its natural position. The period of the motion is 4 seconds. Find the equation, assuming simple harmonic motion.