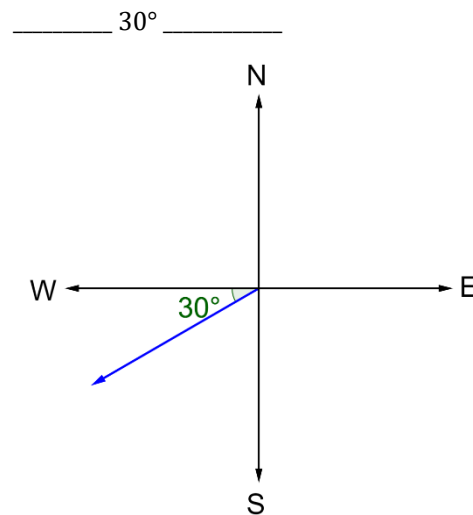
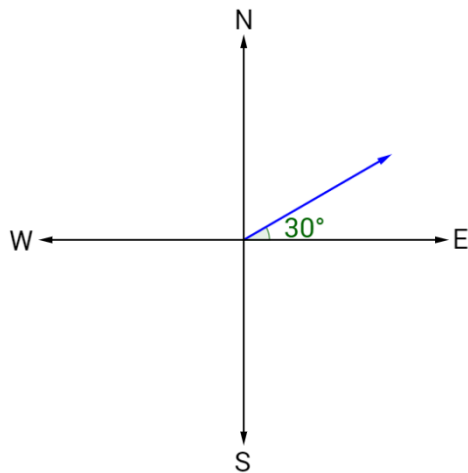


Precalculus

4-11 Bearings and Simple Harmonic Motion

Bearings

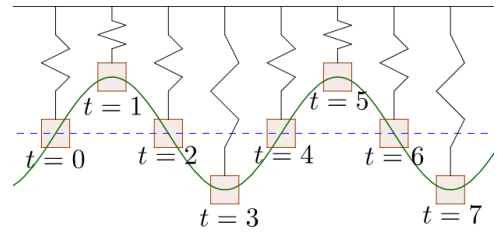
- Bearings show _____
_____ 30° _____



A sailboat leaves a pier and heads due west at 8 knots. After 15 minutes the sailboat tacks, changing course to $N 16^\circ W$ at 10 knots. Find the sailboat's bearing and distance from the pier after 12 minutes on this course.

Simple Harmonic Motion (SHM)

- $y = a \sin \omega x$
- $y = a \cos \omega x$
- Period _____
- Frequency (cycles per second) _____
- Equilibrium is the _____



Find a model for simple harmonic motion with displacement at $t = 0$ is 0, amplitude of 4 cm, and period of 6 sec.

Given the equation for simple harmonic motion $d = 4 \cos 6\pi t$

Find maximum displacement

Find frequency

Find value of d when $t = 4$

Find the least positive value of t for which $d = 0$