Algebra Skills: *(cont)*

3. Solve each equation for the given variable.

a) $f_n = \left(\frac{n}{2L}\right)\cdot\sqrt{\frac{F}{\mu}}$ for F

$F = \left(\frac{f_n \cdot 2L}{n}\right)^2 \cdot \mu$

b) $F = \frac{m\cdot v^2}{r}$ for v

$v = \sqrt{\frac{F\cdot r}{m}}$

c) $P = P_0 + \rho\cdot g\cdot h$ for h

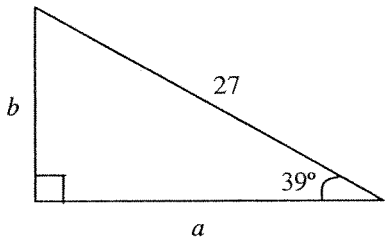
$h = \frac{P - P_0}{\rho\cdot g}$

Right Triangle Trigonometry:

1. The three basic trigonometric functions for a right triangle can be expressed using an angle (θ), and the opposite, adjacent, and hypotenuse sides of the triangles. These functions are: $\cos\theta = \frac{adj}{hyp}$ $\sin\theta = \frac{opp}{hyp}$ $\tan\theta = \frac{opp}{adj}$

Use these functions to solve for each unknown variable in the right triangles shown below.

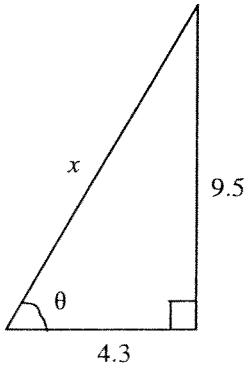
a)



$a =$ 21.0 $\quad a = 27\cdot\cos 39°$

$b =$ 17.0 $\quad b = 27\cdot\sin 39°$

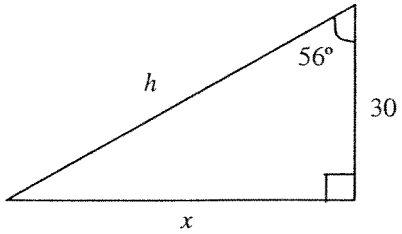
b)



$x =$ 10.4 $\quad x^2 = (4.3)^2 + (9.5)^2$

$\theta =$ 65.6° $\quad \tan\theta = \frac{9.5}{4.3}$

c)



$x =$ 44.5 $\quad \tan 56 = \frac{x}{30}$

$h =$ 53.6 $\quad \sin 56 = \frac{44.5}{h}$