

## Section 4-6: Transforming Formulas

1. 010310a, P.I. A.A.23

The equation  $P = 2L + 2W$  is equivalent to

- [A]  $L = P - W$                       [B]  $L = \frac{P + 2W}{2}$   
[C]  $2L = \frac{P}{2W}$                       [D]  $L = \frac{P - 2W}{2}$

2. 010620a, P.I. A.A.23

In the equation  $A = p + prt$ ,  $t$  is equivalent to

- [A]  $\frac{A - pr}{p}$                       [B]  $\frac{A}{pr} - p$   
[C]  $\frac{A - p}{pr}$                       [D]  $\frac{A}{p} - pr$

3. 060617a, P.I. A.A.23

The formula for the volume of a right circular cylinder is  $V = \pi r^2 h$ . The value of  $h$  can be expressed as

- [A]  $\frac{V}{\pi r^2}$                       [B]  $V - \pi r^2$   
[C]  $\frac{\pi r^2}{V}$                       [D]  $\frac{V}{\pi} r^2$

4. 010710a, P.I. A.A.23

The formula for potential energy is  $P = mgh$ , where  $P$  is potential energy,  $m$  is mass,  $g$  is gravity, and  $h$  is height. Which expression can be used to represent  $g$ ?

- [A]  $P - mh$                       [B]  $P - m - h$   
[C]  $\frac{P}{mh}$                       [D]  $\frac{P}{m} - h$

5. 069922a, P.I. A.A.23

Shoe sizes and foot length are related by the formula  $S = 3F - 24$ , where  $S$  represents the shoe size and  $F$  represents the length of the foot, in inches.

*a* Solve the formula for  $F$ .

*b* To the nearest tenth of an inch, how long is the foot of a person who wears a size  $10\frac{1}{2}$  shoe?

[1] D

[2] C

[3] A

[4] C

a [1]  $\frac{S+24}{3}$  or  $\frac{S}{3}+8$

b [1] 11.5

or [1] Correct substitution into an incorrect part a is shown, and the answer is given to the nearest tenth of an inch.

a and b

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[5] incorrect procedure.