Practice: Modelling With Formulas

1. The formula for area of a circle is $A = \pi r^2$ where r is the radius of the circle. Which is the formula rearranged to isolate r?

$$\mathbf{A} \quad r = \frac{A}{\pi}$$

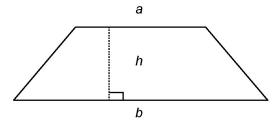
$$\mathbf{B} \quad r = \pi A$$

$$\mathbf{C} \quad r = \sqrt{\pi A}$$

$$\mathbf{D} \quad r = \sqrt{\frac{A}{\pi}}$$

2. The formula for the area of a trapezoid is

$$A = \frac{\left(a+b\right)h}{2}.$$



Which is the formula rearranged to isolate *h*?

$$\mathbf{A} \quad h = \frac{2A}{a+b}$$

B
$$h = 2A - (a + b)$$

$$\mathbf{C} \quad h = \frac{A(a+b)}{2}$$

$$\mathbf{D} \quad h = \frac{a+b}{2A}$$

3. Rearrange each formula to isolate the variable indicated.

a)
$$P = 4s$$

b)
$$I = Prt$$

for
$$P$$

$$\mathbf{c)} \quad A = \frac{bh}{2}$$

d)
$$P = 2(l + w)$$
 for l

e)
$$d = st$$

$$\mathbf{f)} \quad V = \pi r^2 h$$

- **4.** The approximate number of pounds, P, in a kilogram, K, is given by the formula P = 2.2K.
 - **a)** Christine's mass is 34 kg. Convert 34 kilograms to pounds.
 - **b)** Rearrange the formula to express *K* in terms of *P*.
 - **c)** Katherine weighs 78 pounds. Convert 78 pounds to kilograms.