

3.5 Working with Formulas

**** Special Comment:** Be sure to use the letters just as they are given in the formulas. In mathematics, there is little or no flexibility between capital and small letters as they are used in formulas. In general, capital letters have special meaning that are different from corresponding small letters. For example, capital **A** may mean the area of a triangle and small **a** may mean the length of one side, two completely different ideas.

1) $P = a + b + c$; solve for b .

2) $v = k + gt$; solve for g .

3) $2x + 4y = 10$; solve for y .

4) Given the formula $C = \frac{5}{9}(F - 32)$ first find C if $F=212^\circ$ (212 degrees Fahrenheit) and then find F if $C=20^\circ$ (20 degrees Celsius).

Many items decrease in value as time passes. This decrease in value is called depreciation. One type of depreciation is called **linear depreciation**. The value, V , of an item after t years is given by $V=C-Crt$, where C is the original cost and r is the rate of depreciation expressed as a decimal.

5) A contractor buys a 4 year-old piece of heavy equipment valued at \$20,000. If the original cost of this equipment was \$25,000, find the rate of depreciation.

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