# Part 5 Review of Using Formulas to Solve Problems

## Formulas That Measure Objects

**(learning units are in parentheses)**

| Object | Perimeter (33) | Area (34) |
|---|---|---|
| Square | $P = s + s + s + s = 4s$ | $A = ss = s^2$ |
| Rectangle | $P = l + w + l + w = 2(l + w)$ | $A = lw$ |
| Parallelogram | $P = b + s + b + s = 2(b + s)$ | $A = bh$ |
| Trapezoid | $P = b_1 + s_1 + b_2 + s_2$ | $A = \frac{1}{2}(b_1 + b_2)h$ |
| Triangle | $P = s_1 + s_2 + s_3$ | $A = \frac{bh}{2}$ |
| Circle | $C = \pi d$ | $A = \pi r^2$ |
| | $C = 2\pi r$ $\quad \pi = \frac{22}{7} \approx 3.14$ | |

| Object | Volume (35) |
|---|---|
| Cube | $V = Bs = s^3$ |
| Rectangular Solid | $V = Bh = lwh$ |
| Pyramid | $V = \frac{1}{3}Bh = \frac{1}{3}s^2h$ |
| Cylinder | $V = Bh = \pi r^2 h$ |
| Cone | $V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$ |

## Business Formulas

**(Unit 36)**

| Measurement | Formula |
|---|---|
| Interest | $I = Prt$ |
| Profit | $P = R - C$ |
| Discount | $D = R - S$ |
| Unit Price | $U = \frac{T}{n}$ |

## Other Interesting Formulas

**(Units 31, 32, and 37)**

| Measurement | Formula |
|---|---|
| Distance | $D = rt$ |
| Fahrenheit to Celsius | $C = \frac{5}{9}(F - 32)$ |
| Celsius to Fahrenheit | $F = \frac{9}{5}C + 32$ |
| Hypotenuse of a right triangle | $H^2 = a^2 + b^2$ |

## Procedure for Using Formulas

**(Unit 31)**

1. Determine the **unknown** quantity (what you are looking for).
2. State the **known** quantities. For geometry problems, draw and label a diagram.
3. Choose a **formula** that connects the known and unknown quantities.
4. **Replace** formula variables with their given values.
5. **Solve** the resulting equation and label the answer.
6. **Check** the answer by proving it will balance the formula.