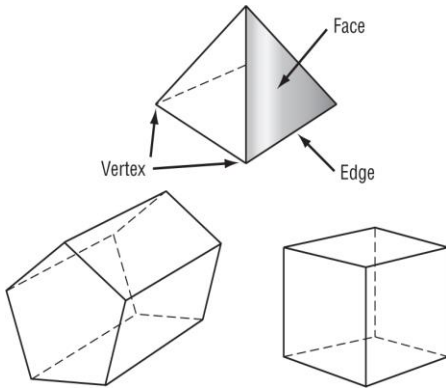# 2-1 Word Problem Practice
## *Writing Equations*

**1. HOUSES** The area of the Hartstein's kitchen is 182 square feet. This is 20% of the area of the first floor of their house. Let *F* represent the area of the first floor. Write an equation to represent the situation.
**$182 = 0.2F$**

**2. FAMILY** Katie is twice as old as her sister Mara. The sum of their ages is 24. Write a one-variable equation to represent the situation.
**$m + 2m = 24$ or $3m = 24$**

**3. GEOMETRY** The formula $F + V = E + 2$ shows the relationship between the number of faces *F*, edges *E*, and vertices *V* of a polyhedron, such as a pyramid. Write the formula in words.



**The sum of the number of faces and number of vertices is equal to the sum of two and the number of edges.**

**4. WIRELESS PHONE** Spinfrog wireless phone company bills on a monthly basis. Each bill includes a $29.95 service fee for 1000 minutes plus a $2.95 federal communication tax. Additionally, there is a charge of $0.05 for each minute used over 1000. Let *m* represent the number of minutes over 1000 used during the month. Write an equation to describe the cost *p* of the wireless phone service per month.
**$p = 32.90 + 0.05m$**

**5. TEMPERATURE** The table below shows the temperature in Fahrenheit for some corresponding temperatures in Celsius.

| Celsius | Fahrenheit |
|---------|------------|
| −20° | −4° |
| −10° | 14° |
| 0° | 32° |
| 10° | 50° |
| 20° | 68° |
| 30° | 86° |

**a.** Write a formula for converting Celsius temperatures to Fahrenheit temperatures.
**$F = 1.8C + 32$**

**b.** Find the Fahrenheit equivalents for 25ºC and 35ºC.
**77ºF and 95ºF**