SOLVING EQUATIONS: APPLICATION WORKSHEET

PRACTICE EXERCISES

Answer each of the following questions in the space provided.

- 1. Volcanoes and geysers illustrate that Earth's interior is very hot. The formula T = 10d + 20 is used to estimate the temperature, T degrees Celsius, at a depth of d kilometers.
 - a. Determine the temperature in a mine shaft that is 0.5 km below the surface of the earth.
 - b. At what depth is the temperature 100°C?
- 2. The formula for the perimeter P of a rectangle with length L and width W is P = 2L + 2W
 - a. Determine the perimeter of a field that is 200 m long and 100 m wide.
 - b. Determine the width of a field having a perimeter of 450 m and a length of 135 m.
- 3. The exact equation for converting Celsius temperatures to Fahrenheit is F = 1.8C + 32, where C represents a temperature reading in degrees Celsius and F represents the equivalent reading in degrees Fahrenheit.
 - a. Convert 3°C to Fahrenheit.

b. Convert 75°F to Celsius.

- 4. Scientists can determine the length of a giant squid by measuring the diameter of the suction-pod scars left on its prey. The formula L = 180D gives the length, L, of a squid in centimeters from the diameter, D, of its suction pods in centimeters.
 - a. A sperm whale was found with suction-pod scars that measured 3.5 cm in diameter. How many metres long was the squid that made these scars?

b. The longest squid, to date, was found in New Zealand. It was 9.72 m long. What was the diameter of its suction pods?

- 5. Oil is being drained from a tank so that the amount of oil (R litres) remaining after a given time (t seconds) is given by the equation R = -10t + 500.
 - a. How many litres of oil remain in the tank after 20 s?

b. How long does it take to drain 100L?