**Worksheet 1.1 and 1.2 – Variables in Algebra and Exponents and Powers - Textbook pages 3-14**

## LEVEL 1

Evaluate the expression for the given value of the variable. Show your work.

1) $x + 5$ when $x = 4$

2) $h(2.5)$ when $h = 100$

3) $g \div 8$ when $g = 72$

4) $7 - x$ when $x = 2.9$

Write the expression in exponential form.

5) $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot b \cdot b$

6) $a \cdot a \cdot a$

## LEVEL 2

7) Calculate the simple interest earned. Show your work.
　　　　deposit $500
　　　　4% interest
　　　　1 year

Evaluate the power.

8) $4^4$

9) $0.3^2$

10) $10^6$

## LEVEL 3

11) Find the average speed for the given distance and time. Show your work.
　　　　An airplane travels 800 miles in 120 minutes.

Evaluate the expression for the given value(s) of the variable(s).  Show your work.
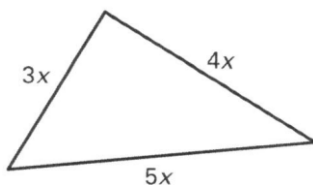
12)  $3^x$  when $x = 6$

13)  $(7x - 8)^2$  when $x = 2$

14)  $(x - y)^4$  when $x = 10$ and $y = 3$

15)  $6x^2$  when $x = 5$

## LEVEL 4

16)  Use the diagram below.



a)  Write an expression for the perimeter of the triangle.

b)  Find the perimeter, in feet, if $x = 4$ inches.  Show your work.

17)  When blown up, a beach ball has a radius of 12 inches.  How much air, in cubic feet, is needed to blow up the beach ball?  (The volume of a sphere is  $V = 4/3 \cdot \pi \cdot r^3$  where $\pi \approx 3.14$ and $r$ is the radius.)
Show your work.



12 in.