Lesson: Substitution

When an expression includes variables (letters) we can evaluate the expression if we are given numerical values for the variables. We see this regularly when using formulas.

Example 1:
A = l x w Find the area of a rectangle if the length if 8cm and the width is 6cm.

Example 2:
Evaluate 2x + 1, for x = 4

When substituting, it is important to use brackets → especially if you have integer values.
*** and don't forget to follow BEDMAS!**

Example 3:
Evaluate –7y, for y = –3

Example 4: Evaluate
a + 2b, if a = 8 and b = –3

Example 5: Evaluate
a(b + 2c), if a = 2, b = 3, c = 5

Example 6: Evaluate
$a^2 – 2b + c$, if a = –1, b = –3, c = 2

Practice: Substitution

Evaluate a-f given x = 3, y = 2, and z = -1

a. $\left(\frac{x}{y}\right)^3$	b. 3.1^y	c. $\frac{y}{x} - \frac{x}{y}$
d. x + y + z	e. xyz	f. $\frac{x+y}{z}$

g. A movie theatre wants to compare the volumes of popcorn in two containers, a cube with edge length of 8.1cm and a cylinder with a radius of 4.5cm and height of 8.0cm. Which container holds more popcorn?

Formula: Cube $V = s^3$ Cylinder $V = \pi r^2 h$

ANSWERS: a) 27/8, b) 9.61. c)-5/6, d) 4, e) -6, f) -5, g) the cube