

## Concept: Patterns to Formulas to Substitution

Name:

### COMPUTER COMPONENT

**Instructions:**

Select the computer program *Understanding Algebra* (Neufeld)  
Follow the instructions to the Main Menu.  
Select *Patterns to Formulas to Substitution* from the Main Menu.



Work through all sections of the following topics **in order**:

- *Introduction ... Math is Patterns*
- *Expressions, Terms, Variables*
- *Examples ... Patterns to Formulas*
- *Substitution is ... Math Scrabble*
- *Substitution Examples*
- *Practice Questions*



As you work through the computer exercises, make your own notes on this page in the **SUMMARY** section.

When you reach the end of the section *Practice Questions* on the computer, move on to the **OFF COMPUTER EXERCISES** below.

### SUMMARY

☞ Give an example for the following mathematical words:

Algebraic Expression

Monomial

Term

Binomial

Variable

Trinomial

Coefficient

**OFF COMPUTER EXERCISES**

1. Fill in the chart.

Expression	Terms	Variables	Coefficients
$4x - 2y + 5$			
$2x^2 - x + 4$			
$a - 6$			
$4pq - 2p + 5q$			

2. Label each as a monomial, binomial or trinomial.

(a)  $5x - 2y$  \_\_\_\_\_

(c)  $2$  \_\_\_\_\_

(b)  $-6c$  \_\_\_\_\_

(d)  $2x^2 - x + 4$  \_\_\_\_\_

3. In hockey standings, two points are given for a win and one point in given for a tie.

(a) The Slammer hockey team has 3 wins and 4 ties.  
How many points does the team have in total?

(b) If the Sticks hockey team has 5 wins and 0 ties, how many points does the team have in total?

(c) If  $w$  represents the number of wins and  $t$  represents the number of ties, then the total of the points scored (which we represent with a  $T$ ) is given by

$$T =$$

4. Given that  $x = 2$  ,  $y = -3$  and  $z = -1$ , evaluate the following.

(a)  $3x^2 - 2x + 1 =$

(b)  $2x + 5y =$

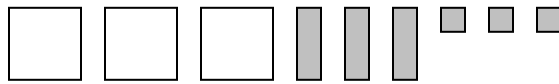
(c)  $-4x - 7y =$

(d)  $2x^2 - 2xy + y =$

(e)  $4x^2y^2 =$

(f)  $2x^2 - xy - z + z^2 =$

5. If the following set of algebra tiles represents the trinomial  $-3x^2 + 3x + 3$



then complete each of the following.

