

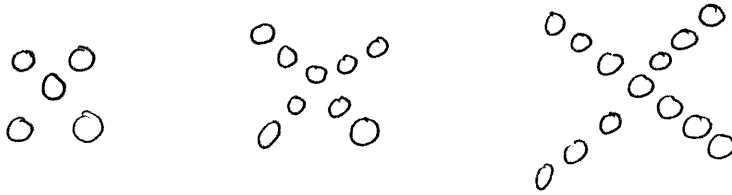
Name:

Date:

### Patterns and Expressions

/ 28 marks

1. a) Draw the next figure in this sequence: 2 marks



b) Complete a t-table for the sequence 2 marks

Shape #	# of Squares in the shape
1	
2	
3	
4	
5	

c) Write a pattern rule for each column. 2 marks

d) Write a rule or expression to describe the number of squares in any shape: \_\_\_\_\_ 1 mark

e) How did you determine the expression above? 2 marks

e) How many squares will there be in the 8<sup>th</sup> figure? \_\_\_\_\_ How do you know? 2 marks

2) Complete the tables below. 4 marks

a)

n	$2n - 3$
5	
10	
15	
20	

b)

n	$3n + 5$
1	
2	
3	
4	

3) Write an expression of your own. Complete the table for the values requested. Describe a scenario for your expression. 3 marks

1	
2	
3	

4) An art class charges an initial one time registration fee of \$30. Each art class costs \$15.

- a) Write an expression that shows how you can calculate the total cost of any number of classes. *1 mark*
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- b) Complete the table of values using your expression. *2 marks*

# of classes	Total cost
1	
2	
3	
4	

- c) What would the total cost of 30 lessons be? \_\_\_\_\_ *1 mark*

5) Complete the computations requested. *2 marks each*

a)  $56 \times 120$

b)  $37893 - 29976$

c)  $42 + 5794 + 382$