

# Patterns

Teacher Name: KEY

Learner First Name: \_\_\_\_\_

Block: \_\_\_\_\_

Learner Last Name: \_\_\_\_\_

Date: \_\_\_\_\_

\*\* Indicate how you feel about how you did on each section. Circle one: 😊 😐 😞

1. Using the number pattern below, predict how many blocks will be in the 6th figure?

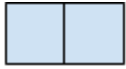


Figure 1

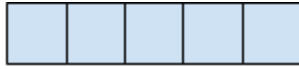


Figure 2

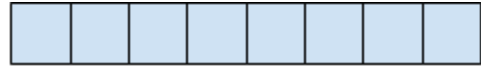


Figure 3

2, 5, 8, 11, 14, 17



2. Identify the pattern in the table below.

Record your thinking here. ✎

x	Y
1	3
2	6
3	9
4	12

You multiply "x" by 3 to get Y

Or  $y = 3x$

Hint: what do you do to 'x' to get 'Y'?



3. If  $a = 5$  and  $b = (-3)$ , find the value of:

$2a + 7b$

$$2(5) + 7(-3) = 10 + (-21) = -11$$



4. Using the expression  $4x + 3$ , complete the table.

$4x + 3$

x	output
2	11
3	15
4	19
5	23
6	27



5. Graph and label the following points.

A) (5, 3)

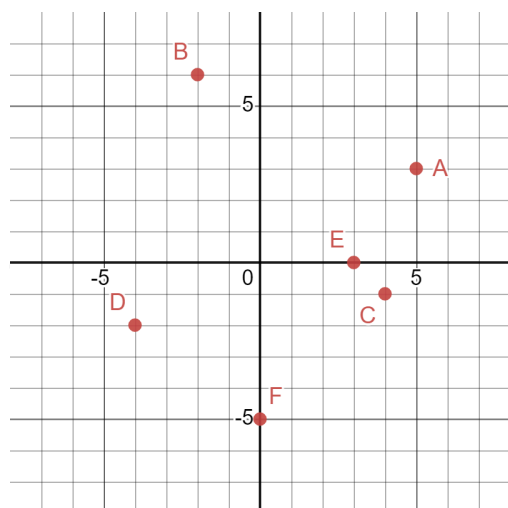
B) (-2, 6)

C) (4, -1)

D) (-4, -2)

E) (3, 0)

F) (0, -5)



6. In a school cafeteria, tables can be placed together so that: 6 people can be at one table, 10 people at two tables, and 14 people at three tables.



1 table



2 tables



3 tables

A) Complete the following:

Number of tables	Number of people
1	6
2	10
3	14
4	18
5	22

B) Write an expression to represent the pattern rule.

Record your thinking and answer here.

If  $p$  = number of people and  $t$  = number of tables, then  $p = 4t + 2$



7. A plain pizza costs \$14 plus \$3 for each topping.

A) What would a 4 topping pizza cost?

Record your thinking and answer here.

$$4 \text{ toppings} \times \$3/\text{topping} = \$12$$

$$\$14 + \$12 = \$26$$

B) You have \$36 to order pizzas and toppings.

i) What is the maximum number of pizzas and/or toppings you could order?

Record your thinking and answers here.

$$7 \text{ toppings } (\$3 \times 7 \text{ toppings} = \$21)$$

ii) How much money do you still have?

$$\$14 + \$21 = \$35$$

$$\$36 - \$35 = \$1 \text{ left over}$$

