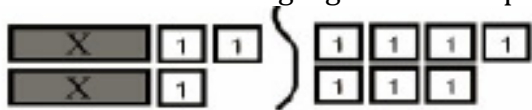


Part A: Selected Response. Place the letter corresponding to the correct answer in the table provided. (1 mark each)

1.		2.		3.		4.		5.	
6.		7.		8.		9.		10.	

Note: For this in-class shaded will be negative and white will be positive.

1. What do the following algebra tiles represent?



- A) $2x + 3 = 7$
 B) $2x - 3 = 7$
 C) $-2x + 3 = 7$
 D) $-2x - 3 = 7$

2. Expand the following expression: $-3(7 - 5x)$

- A) $-21 - 15x$
 B) $-21 - 5x$
 C) $-21 + 5x$
 D) $-21 + 15x$

$$-21 + 15x$$

3. Solve for n: $\frac{n-3}{-3} = 7$

- A) -21
 B) -10
 C) 10
 D) 21

$$n = -21$$

4. Solve for n: $\frac{-5n}{-5} = \frac{-20}{-5}$

- A) -15
 B) -4
 C) 4
 D) 15

$$n = 4$$

5. Gabe would like to purchase a tablet that costs \$250. Each app downloaded costs \$2.00. If he has \$278, how many apps can he download?

- A) 7
 B) 14
 C) 28
 D) 56

$$\begin{array}{r} 2n + 250 = 278 \\ -250 \quad -250 \end{array}$$

$n = \# \text{ of apps}$

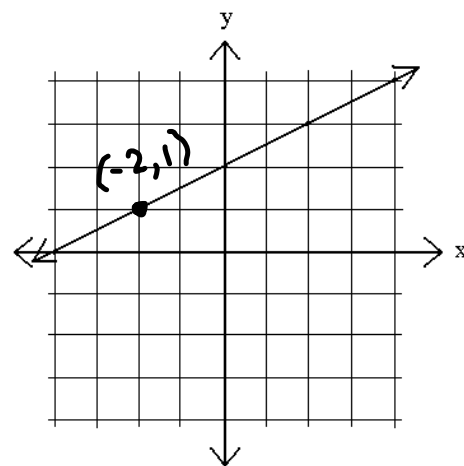
$$\frac{2n}{2} = \frac{28}{2} \quad \boxed{n = 14}$$

6. Given the equation $y = -3x + 6$, which ordered pair is correct?

- A) $(-2, 0)$
 B) $(0, -6)$
 C) $(1, 9)$
 D) $(3, -3)$

$$\begin{array}{l} -3 \stackrel{?}{=} -3(3) + 6 \\ -9 + 6 \\ -3 \end{array}$$

$x = 3 \quad y = -3 \quad \text{☺}$



7. The graph on the right is the linear equation $y = \frac{x}{2} + 2$. What is the missing number in the ordered pair $(_, 1)$?

- A) -2
 B) 1
 C) 1.5
 D) 2.5

$$\begin{array}{l} y = \frac{x}{2} + 2 \\ 1 = \frac{x}{2} + 2 \\ -2 \quad -2 \\ -1 = \frac{x}{2} \times 2 \\ \boxed{x = -2} \end{array}$$

8. Given the linear relation $y = 2x - 5$, as x increases by 1

- A) y decreases by 5
 B) y decreases by 2
 C) y increases by 2
 D) y increases by 5

$$+1 \left(\frac{x}{2} \mid \frac{y}{-5} \right) + 2$$

9. Sally solved the equation: $4(x - 3) = -27$. In which step was the mistake made?

- A) Step 1

Step 1

$$4x - 3 = -27 \quad \text{Should be } 4x - 12 = -27$$

- B) Step 2

Step 2

$$4x - 3 + 3 = -27 + 3$$

- C) Step 3

Step 3

$$4x = -24$$

- D) Step 4

Step 4

$$\frac{4x}{4} = \frac{-24}{4}$$

$$x = -6$$

10. Which table of values matches the relation $y = 3x + 3$?

~~x~~

x	1	2	3	4
y	4	5	6	7

~~x~~

x	1	2	3	4
y	3	4	5	6

1 1 1

c.

x	1	2	3	4
y	3	6	9	12

d.

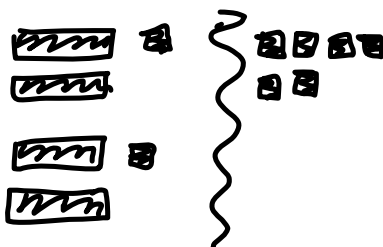
x	1	2	3	4
y	6	9	12	15

3 3 3

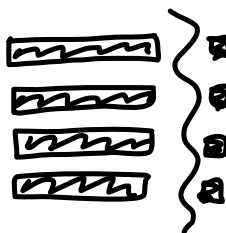
Part B: Constructed Response (Value in brackets)

11. Using algebra tiles illustrate and solve $2(-2x - 1) = 6$. Verify your answer. (3)

①



③



④



⑤



$$x = 1$$

verify:

$$2(-2x - 1) = 6$$

$$2(-2 \times 1 - 1)$$

$$2(-2 - 1)$$

$$2(-3)$$

$$-6$$



12. Solve the following algebraically:

a) $-3n + 5 = 11$ (2 marks)

$$\frac{-3n}{-3} = \frac{6}{-3}$$

$$n = -2$$

b) $5 - \frac{n}{3} = 2$ (2 marks)

$$\frac{-n \times 3}{3} = \frac{3 \times 3}{3}$$

$$-n = 9$$

$$n = -9$$

$$\text{c) } -8 = -2(n-1) \quad (3 \text{ marks})$$

$$\begin{array}{r} -8 = -2n + 2 \\ -2 \quad \quad -2 \end{array}$$

$$\frac{-10}{-2} = \frac{-2n}{-2}$$

$$\boxed{n=5}$$

$$\text{d) } 3(-2n-5) = 9 \quad (3 \text{ marks})$$

$$\begin{array}{r} -6n - 15 = 9 \\ +15 \quad +15 \end{array}$$

$$\frac{-6n}{-6} = \frac{24}{-6}$$

$$\boxed{n=-4}$$

13. Zack chose his favorite number. If you divide Zack's favorite number by 7 and then subtract 3 the answer is -9 .

A) Write an equation that can be used to find Zack's favorite number. (1 marks)

$$\frac{n}{7} - 3 = -9$$

B) Solve the equation you wrote in (A) algebraically.

(2 marks)

$$\begin{array}{r} \frac{n}{7} - 3 = -9 \\ +3 \quad +3 \end{array}$$

$$\frac{n \times 7}{7} = -6 \times 7$$

$$\boxed{n=-42}$$

C) Verify your answer.

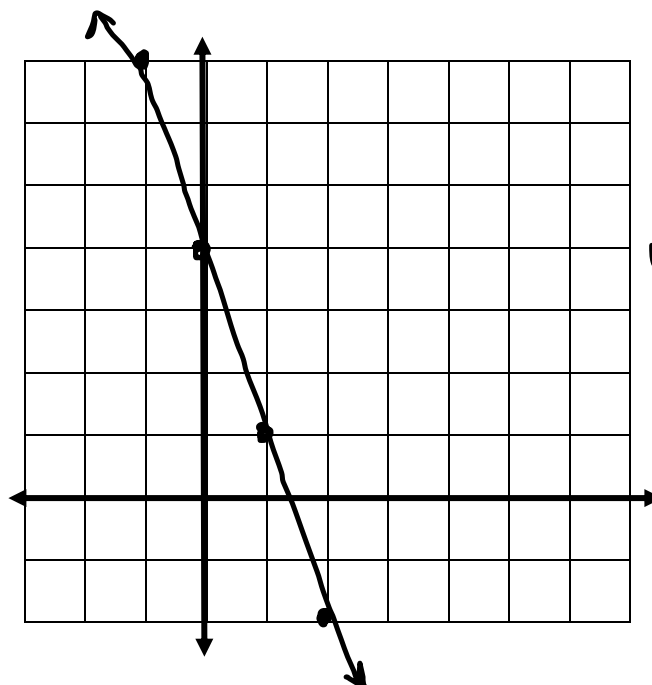
(1 mark)

$$\begin{array}{r} \frac{n}{7} - 3 = -9 \\ \frac{-42}{7} - 3 \\ -6 - 3 \\ -9 \end{array}$$

☺

14. A) Complete the table of values and create the graph for the equation $y = -3x + 4$.
(4 marks)

x	y
-1	$-3(-1) + 4 = 7$
0	4
1	1
2	-2



- B) Describe the relationship between the variables x and y . (1 mark)

As x increases by 1,
 y decreases by 3.

- C) Determine the value of y for the ordered pair $(11, \underline{\hspace{1cm}})$. (2 marks)

$$y = -3x + 4$$

$$y = -3(11) + 4$$

$$y = -33 + 4$$

$$\boxed{y = -29}$$

$$(11, -29)$$

- D) Determine the value of x for the ordered pair $(\underline{\hspace{1cm}}, 13)$. (2 marks)

$$y = -3x + 4$$

$$13 = -3x + 4$$

$$-4 \quad -4$$

$$(-3, 13)$$

$$\frac{9}{-3} = \frac{-3x}{-3}$$

$$\boxed{x = -3}$$