***Math 10C Unit 2 Review Package***

*Part I. Multiple Choice (1 mark each)*

1. The simplified form of  is

A. 

B. 

C. 

D. 

1. The sides of a rectangle are  and . What is the perimeter length of the rectangle?

A. $3x^{2}-2$

B. $4x+1$

C. $8x+2$

D. $4x^{2}+1$

*Use the following information to answer the next question.*



1. What is the area of the above rectangle?

A. 

B. 

C. 

D. 

1. The simplified form of  is

A. 

B. 

C. 

D. 

1. Which of the following is **NOT** a factor of ?
	1. 3
	2. 
	3. 
	4. 
2. Which of the following is **NOT** a factor of ?

A. 

B. 

C. 

D. 

1. The perimeter of a triangle is . The lengths of two of the sides of the triangle are  and . Which of the following expressions represents the length of the third side of the triangle?

A. 

B. 

C. 

D. 

A square playground is expanding. One side of the playground is being expanded 5 m while the other is being expanded 1 m.



1. Which of the following represents the area of the new playground after expansion?

A. 

B. 

C. 

D. 

*Use the following information to answer the next question.*

Tom wants to cover the hallway and storage room of his house with carpet. He draws the following diagram.



1. The area of carpet that Tom will need is given by the expression
2. $14x^{2}$
3. $12x^{2}$
4. $8x^{2}$
5. $6x^{2}$
6. Expand (-3a2)(5a2 – 7a + 8)
7. – 15a2 + 21a – 24
8. –15a4 – 21a3 + 24a2
9. –15a4 + 21a3 – 24a2
10. –15a2 –21a –24
11. The area of the rectangle, in square units, is:

 (x + 3) units

 (x + 4) units

1. x2 + 7x + 12
2. x2 + 7x + 7
3. x2 + 12
4. x2 + 7x
5. If x = -2, then 2x + 3x2 is equal to
6. 12
7. 8
8. -8
9. -12
10. Which of the following binomial multiplication expressions does the diagram represent? The shaded areas represent positive values.
11. $\left(2x-3\right)\left(x+3\right)$
12. $\left(2x-3\right)\left(x+9\right)$
13. $\left(2x+3\right)\left(x+3\right)$
14. $\left(2x+3\right)\left(x-9\right)$
15. When $25c^{2}-d^{2}$ is factored completely, one of its factors would be
16. $25c-d$
17. $5c-d^{2}$
18. $5c+d$
19. $5c+d^{2}$
20. The school cafeteria is going to be carpeted. A diagram of the cafeteria is shown below. Which of the following expressions represents the **area** of the cafeteria?

2x - 3

x + 6

 x

3

1. x2 - 9
2. 6x - 9
3. x2 + 9x - 9
4. 3x2+ 9x - 27

Written Response:

1. Simplify the following expressions.

a.$ \left(m^{3}+5m^{2}+3\right)+(4m^{2}+7)$ b. $\left(4s^{2}+s-2\right)-(-3s^{2}+s-5)$

 c.$ \left(y-4\right)(y+6)$ d. $\left(t+10\right)(t-10)$

 e.$ -3b(3b^{2}-5b+1)$ f. 3(x + 2) + 2(x – 6)

1. –2ab2(ab – a2 + b) h. -5 (3p + 4p2) - 5p2
2. 6m(2mn –n2) – 3(m2n– 5mn2) + 6n(-5mn – 4m2)

j. 4(6m - 12) + 15 k. (x + 4)(x –6)

l. (g + h)(g + h) m. (2x + y)(3x + y)

n. (6x – 2y)(3x – 7y) o. (3b + 5)2

p. (3x - 2) (3x + 2)

1. Factor each of the following using the **greatest common factor method**:

 a) 24m2n + 16mn2 b) 5ab2 + 10ab- 15a2b

 c) 49b2 – 7b3 + 28 b d)16y2- 32y + 24y3

1. Factor each of the following **differences of squares** :



1. Factor each of the following the polynomials using **any method**. Make sure that you factor as far as possible.

 a) 5m2 - 40m + 35 b) 26x2y7 – 13x3y4 c) x2y – 2x2 – 2xy + 4x

1. Factor the following trinomials.

a.$ y^{2}+y-42$ b. $3y^{2}-12y+12$

c.  d. 

*Simplify the following. Draw the tiles on the graph and then write down the solution. Be sure to shade the tiles that are positive and leave the negative tiles blank.)*

6.  7. 



Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find an expression for the **perimeter** of the following hexagon. **Simplify** to lowest terms. Then, find the perimeter when x = 4.

2x - 3

x + 6

 x

3

1. Factor each of the following, if possible.
2.  b)  c)

d) e) f)

g) h)

1. Determine two values of *b* that allow each expression to be factored.
2.  b) 
3. The CN Tower in Toronto has an area that can be expressed as  square units. Factor  to find binomials that represent the length and the width of the tower.
4. The area of a children’s playground measures  square units.
5. Factor the binomials that represent the length and the width of the playground.
6. If *a* represents 13 m, what are the length and the width of the playground, in metres.
7. The area of a square can be given by the expression , where *x* represents a positive integer. Write a possible expression for the perimeter of the square.
8. Factor each of the following trinomials using **any method**. Make sure that you factor as far as possible



l) 5m2 - 40m + 35 m) n)