

Name _____ Date _____

UNIT 1 PACKET COHORT B
FUNDAMENTALS OF ALGEBRA

Monday 10/5 Remote

-Watch the video lesson 1N1 and complete the guided notes.

-Complete HW Set#4 1N1

FUN 1 - N1

ALGEBRAIC EXPRESSION –

KEY WORDS TO WATCH FOR WHEN TRANSLATING:

<u>ADD</u>	<u>SUBTRACT</u>	<u>MULTIPLY</u>	<u>DIVIDE</u>
sum	difference	product	quotient
more than	less than	of	
increased by	decreased by	double	
exceeds	fewer than	twice	
	reduced by	triple	

****** Be careful when using LESS THAN, FEWER THAN, SUBTRACTED FROM – they reverse the order!!**

Write an algebraic expression for each:

1. the sum of x and 7
2. the product of g and 10
3. r decreased by 2
4. 3 less than w
5. the product of $5r$ and s
6. twice x , decreased by 10
7. m exceeded by 5
8. 12 increased by the square of q
9. t more than w
10. 3 fewer than 6 times n
11. 5 more than 3 times y
12. 4 less than the square of n
13. one-third of c
14. 13 subtracted from half of r

******When multiplying by a quantity (like a sum or difference),**

you must use _____!!

15. three times the sum of p and q
16. twice the quantity x plus y
17. one-fourth the quantity 16 less than n

Tuesday 10/6 In Class

-Lesson 1N2 and complete guided notes

-Complete HW Set#4 1N2

FUN 1 – N2

ALGEBRAIC EQUATION –

IS means _____

Write an algebraic equation for each:

1. Twice x increased by 4 is 18
2. 4 less than a is 20
3. 3 times x is 4 more than the square of x
4. 8 more than 4 times y is the same as 20
5. x reduced by 14 is the same as 6 more than twice x

Write an algebraic equation and solve the equation.

6. Five more than six times a number is -1.
7. Two less than five times a number is 33.
8. Five less than three times a number is the same as nine more than the number.
9. Three-fourths of a number is 128.

Wednesday 10/7 Remote

-Watch the video lesson 1N3 and complete guided notes

-Complete HW Set#4 1N3

FUN 1 – N3

The **standard form** of a polynomial contains _____.

For example, the expression $2x^2 + 3x - x - 7$ simplifies to

_____.

If a polynomial has more than one degree, express it in standard form by

writing its terms in _____ of

degree. In other words, the exponents should go from

_____ to _____.

For example, the polynomial $4 + 5a^3 - 2a^6 - 3a$ written in standard form is

_____.

ADDING POLYNOMIALS:

1. $(x^2 - 4x + 3) + (3x^2 - 3x - 5)$

2. $(15x^3 - 10x^2 + 14x) + (11x^3 + x^2 - 14x)$

3. $(9x + 8y - 12z) + (-x - 10y + 11z)$

4. $(4x^2 + 8x - 3) + (6x^2 - 10)$

5. $(12a^5 + 4a^4 - 6a^3 - 15a^2) + (a^4 + 15a^2)$

6. $(\frac{1}{3}x + \frac{2}{5}y + \frac{1}{2}) + (-\frac{5}{6}x - \frac{1}{2}y - \frac{3}{4})$

Thursday 10/8 Remote

-Watch video lesson 1N4 and complete guided notes

-Complete HW Set#4 1N4

HW Set#4 is due TOMORROW

FUN 1 – N4

SUBTRACTING POLYNOMIALS –

1. $(4x^2 + 2x - 3) - (2x^2 - 5x - 3)$

2. $(16a - 12b + 7c) - (a + 12b + 7c)$

3. $(5x^2 + 2x) - (3x^2 - 9x)$

4. If $A = 3x^2 + 5x - 6$ and $B = -2x^2 - 6x + 7$, then $A - B$ equals

(1) $-5x^2 - 11x + 13$

(2) $5x^2 + 11x - 13$

(3) $-5x^2 - x + 1$

(4) $5x^2 - x + 1$

What about this situation: Subtract 10 from 30.
How would you write that?

5. Subtract $7r^2 + 3r - 8$ from $10r^2 - 3r - 7$.

6. Subtract $m^2 - 5m + 7$ from $m^2 - 3m - 4$.

7. Subtract $12x - 6y + 9z$ from $-x + 6y - 3z$.

Friday 10/9

-Hand in HW Set#4

-Complete Unit 1 Practice #1

-Pick up HW Set#5

UNIT 1 – PRACTICE #1

Translate the following expressions. (1 point each)

1. the product of x and 7

2. 8 less than x

3. x exceeded by 9

4. 12 increased by 6 times x

5. $\frac{2}{3}$ of x

6. x reduced by 14

7. 10 more than twice x

8. 13 less than 8 times x

9. two times the quantity 6 less than x

10. twice the sum of x and y

Translate the following equations. (1 point each)

11. 8 less than 3 times x is 16

12. the square of x is 64

Add the following polynomials. Write your answers in standard form.
(3 points each)

13. $(15x - 26y + 8z) + (3x - 14y - 3z)$

14. $(-9a + 8c) + (3a - 8c)$

15. $(x^2 - 33x + 15) + (-4x^2 + 18x - 36)$

Subtract the following polynomials. Write your answers in standard form.
(4 points each)

16. $(4r - 7s) - (5r - 7s)$

17. $(x^2 - 6x + 5) - (3x^2 - 2x - 2)$

18. Subtract $9r - 7b$ from $6r - 7b$.

19. Subtract $-a^2 - 5a + 3b^2$ from $3a^2 - 2a + 3b^2$.

Tuesday 10/13 In class

-Unit 1 Quiz-complete and scan/take a picture and send to us

Wednesday 10/14 Remote

-Watch video lesson 1N5 and complete guided notes

-Complete HW Set#4 1N5

FUN 1 – N5

MULTIPLYING MONOMIAL BY POLYNOMIAL:

1. $-5x(x^2 - 2x + 4)$

2. $-3a^2b^2(4ab^2 - 3b^2)$

3. $-x^7(x^2 - 2)$

4. $-x^3(7x - 5y)$

MULTIPLYING POLYNOMIALS:

5. $(x + 5)(x + 2)$

6. $(a-3)(a+7)$

7. $(y+6)(y-2)$

8. $(x+3)(x-3)$

Thursday 10/15 in Remote

-Lesson 1N6 and complete guided notes

-Complete HW Set#5 1N6

-HW Set #5 is due tomorrow

FUN 1 – N6 Multiplying Polynomials Day 2

1. $(x - 7)(x + 2)$

2. $(y + 7)(y - 7)$

3. $(2x + 1)(x - 6)$

4. $(c - 5)(2c - 4)$

5. $(3d+8)(3d-8)$

6. $(2x+3)(x-4)$

7. $(3n+5)(2n+7)$

8. $(2x-3)(3x-8)$

Friday 10/16 in class

-Hand in HW Set#5

-Complete lesson 1N7 and the guided notes

FUN 1 – N7

Divide:

1. $\frac{30x^6}{2x^4}$

2. $\frac{-21a^5b^4}{-3a^4b}$

3. $\frac{12y^2z^2}{4y^2z}$

4. $\frac{72a^{11}b^{14}c^{64}}{72a^{11}b^{14}c^{64}}$

DIVIDING A POLYNOMIAL BY A MONOMIAL:

The rule is:

For example: $\frac{6x^4 + 3x + 12}{3}$ means:

Examples:

$$5. \quad \frac{5x^3 + 2x^2 - 8x}{x}$$

$$6. \quad \frac{5y^3 + y}{y}$$

$$7. \quad \frac{12x^2y + 18xy}{6xy}$$

$$8. \quad \frac{8x^3 + 6x^2 - 2x}{2x}$$

$$9. \quad \frac{20m^2n + 25}{5}$$

Monday 10/19 Remote

-Complete Unit 1 Practice #2

-Send/submit a picture/scan of Unit 1 Practice #2

-Correct Unit 1 Practice #2 with posted key

Unit 1 Practice #2

Multiply the following. Write your answers in standard form. (3 points each)

1. $x(x^5 + x^3 - x)$

2. $a^3(3a^5 + 2a^2 - a)$

Multiply the following polynomials. Write your answers in standard form.
(4 points each)

3. $(y + 1)(y - 1)$

4. $(2x - 3)(x + 10)$

5. $(2x + 1)(10x + 13)$

Divide the following polynomials. Write your answers in standard form.
(3 points each)

6.
$$\frac{18x^4 - 9x^2 + 27x}{9x}$$

7.
$$\frac{14x^4 + 7x^3}{7x^3}$$

8.
$$\frac{15a^{10} + 25a^5 - 5a}{5a}$$

Tuesday 10/20 in class

-Complete & correct Unit 1 Study Guide

-Unit 1 Test is tomorrow

Unit 1 Study Guide

1 - N1

1. Mr. Stanton asked his students to write an algebraic expression on a piece of paper. He chose four students to go to the board and write their expression.

Robert wrote: $4(2x + 5)$

Meredith wrote: $3y - 7 + 11z$

Steven wrote: $9w + 2 = 20$

Ann wrote: $8x^2 - 10x$

Which student was *incorrect*?

- (1) Robert (2) Meredith (3) Steven (4) Ann
2. Which verbal expression can be represented by $2(x - 5)$?
- (1) 5 less than 2 times x
- (2) twice the sum of x and 5
- (3) twice the difference of x and 5
- (4) the product of 2 and x , decreased by 5

3. The length of a rectangle is 3 more than twice its width. If w represents the width, write an algebraic expression to represent the length.

1 – N2

4. Write an equation for the following statement:

Eight times a number decreased by 7 is 33.

Solve this equation.

1 – N3

5. Express the sum of $3x^3 + 8x^2 - x - 7$ and $4x^3 - 2x^2 + x + 10$.

1 – N4

6. Find the difference: $(a^2 + a - 3) - (3a^2 - 5)$

7. Subtract $5x^2 + 2x - 11$ from $3x^2 + 8x - 7$ and express your answer as a trinomial.

1 – N5

8. Find the product of $4x^2$ and $3x^2 - 7x + 5$

9. Multiply: $(x - 1)(x + 12)$

1 – N6

10. Multiply: $(3x + 5)(x - 6)$

1 – N7

11. If $A = 63x^2 + 7x$ and $B = 7x$, what is $\frac{A}{B}$, in standard form?

Wednesday 10/21
Unit 1 Test Remote