New Bedford Public Schools
Division of Adult & Continuing Education

New Bedford High School Evening Extension

2019 – 2020 School Year
Trimester III

Learning Packet #3
for
Algebra II

Teacher: *Mr. Emanuel Alves*
New Bedford High School Evening Extension
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New Bedford, MA 02740
egalves@newbedfordschools.org

Email Mr. Alves with questions/concerns regarding this packet at the email address listed above.
Due date: May 4, 2020

NOTE:

The Google Class Code

for your

Algebra II class is:

k3jr74p

You can also connect with Mr. Alves via remind

Get Outlook for iOS

Kuta Software - Infinite Algebra 2 Name_____

Basic Polynomial Operations

Date_____ Period____

Name each polynomial by degree and number of terms.

1) $-10x$

2) $-10r^4 - 8r^2$

3) 7

4) $9a^6 + 3a^5 - 4a^4 - 3a^2 + 9$

5) $-3n^3 + n^2 - 10n + 9$

6) $7x^2 - 9x - 10$

7) $-4b$

8) $-9 + 7n^3 - n^2$

9) Critical thinking: Why is it impossible to have a linear trinomial with one variable?

Simplify each expression.

10) $(4m^4 - m^2) + (5m^2 + m^4)$

11) $(5x + x^4) - (3x^4 + 4x)$

12) $(5 + 7x^3 + 3x^2) + (-12 + 5x + 6x^2)$

13) $(4 + 3x^2 + 8x^3) + (-7x^3 + 12x^5 + 6x^2)$

14) $(13m^4 + 2) + (m^4n^2 + 2 - 2m^4) - (-13m^2n^3 + 5m^4)$

15) $(-10mn^3 - 4n^4) - (-2n^4 - 7mn^3 - 6n^3) - (5n^3 + 6mn^3)$

Find each product.

16) $(2n + 3)(n - 2)$

17) $(5v - 1)(4v + 3)$

18) $(2r - 2)(-r - 7)$

19) $(3x + 5)(3x - 6)$

20) $(-4x^2 - 5x - 1)(4x^2 - 6x - 2)$

21) $(x^2 - 2x - 8)(-x^2 + 3x - 5)$

22) $(-4m - 4n)(-6m - 6n)$

23) $(8u + 4v)(6u + 6v)$

Critical thinking questions:

24) Simplify: $(a + b)(c + d)$

25) Simplify and then classify by degree and number of terms:
$2x + 3x^2(4x - 5)$

Kuta Software - Infinite Algebra 1

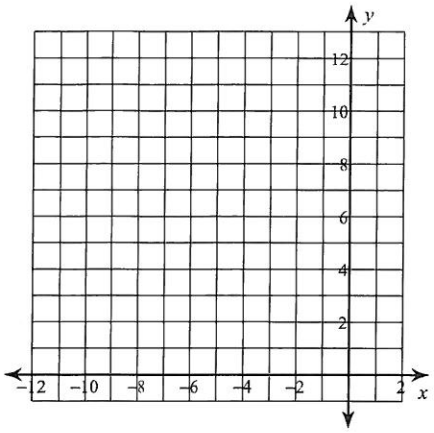
Name_____

Graphing Quadratic Functions

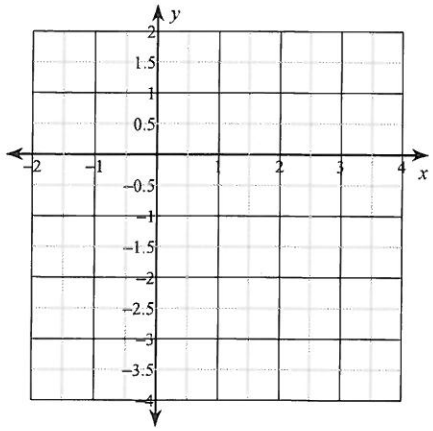
Date_____ Period____

Sketch the graph of each function.

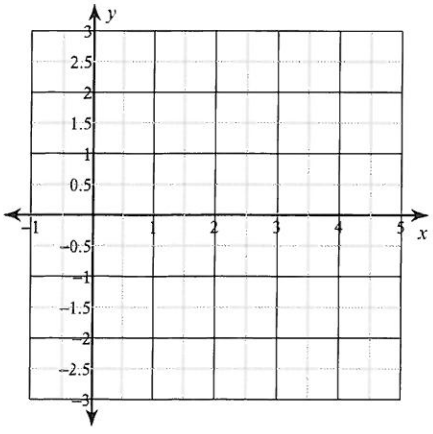
1) $y = 3x^2$



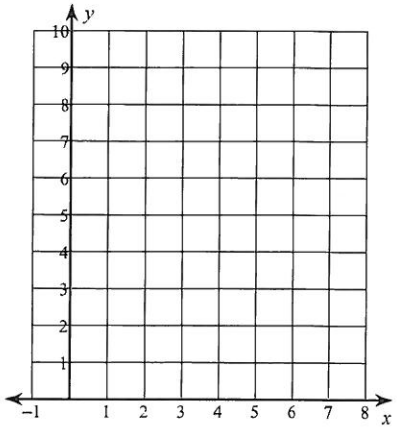
2) $y = -\frac{1}{2}x^2$



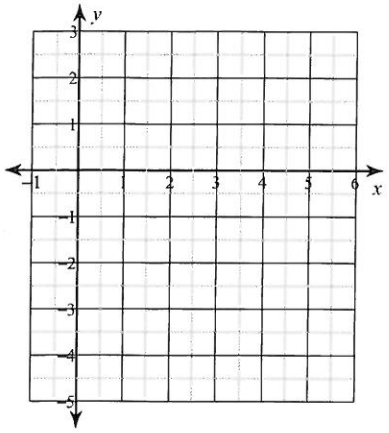
3) $y = -x^2 + 2x + 1$



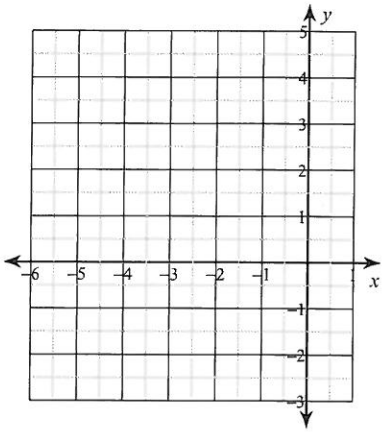
4) $y = 2x^2 - 16x + 33$



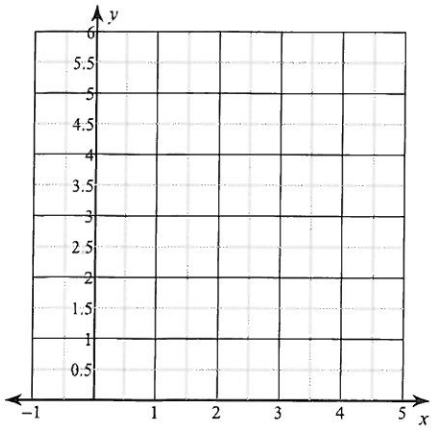
5) $y = x^2 - 8x + 13$



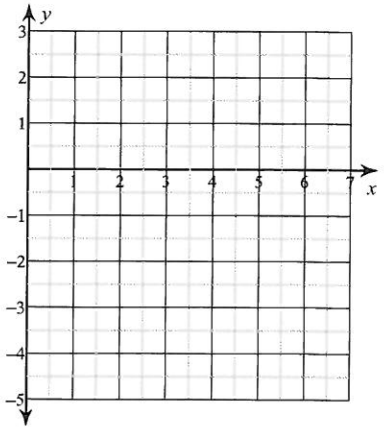
6) $y = -x^2 - 8x - 13$



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



8) $y = \frac{1}{2}(x-4)^2 - 2$



Kuta Software - Infinite Algebra 2 Name_____

Basic Polynomial Operations

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5) $-3n^3 + n^2 - 10n + 9$

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8) $-9 + 7n^3 - n^2$

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Simplify each expression.

10) $(4m^4 - m^2) + (5m^2 + m^4)$

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15) $(-10mn^3 - 4n^4) - (-2n^4 - 7mn^3 - 6n^3) - (5n^3 + 6mn^3)$

Find each product.

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20) $(-4x^2 - 5x - 1)(4x^2 - 6x - 2)$

21) $(x^2 - 2x - 8)(-x^2 + 3x - 5)$

22) $(-4m - 4n)(-6m - 6n)$

23) $(8u + 4v)(6u + 6v)$

Critical thinking questions:

24) Simplify: $(a + b)(c + d)$

25) Simplify and then classify by degree and number of terms:
$2x + 3x^2(4x - 5)$

Kuta Software - Infinite Algebra 1

Name_____

Adding and Subtracting Polynomials

Date_____ Period____

Simplify each expression.

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

2) $(a^3 - 2a^2) - (3a^2 - 4a^3)$

3) $(4 + 2n^3) + (5n^3 + 2)$

4) $(4n - 3n^3) - (3n^3 + 4n)$

5) $(3a^2 + 1) - (4 + 2a^2)$

6) $(4r^3 + 3r^4) - (r^4 - 5r^3)$

7) $(5a + 4) - (5a + 3)$

8) $(3x^4 - 3x) - (3x - 3x^4)$

9) $(-4k^4 + 14 + 3k^2) + (-3k^4 - 14k^2 - 8)$

10) $(3 - 6n^5 - 8n^4) - (-6n^4 - 3n - 8n^5)$

11) $(12a^5 - 6a - 10a^3) - (10a - 2a^5 - 14a^4)$

12) $(8n - 3n^4 + 10n^2) - (3n^2 + 11n^4 - 7)$

13) $(-x^4 + 13x^5 + 6x^3) + (6x^3 + 5x^5 + 7x^4)$

14) $(9r^3 + 5r^2 + 11r) + (-2r^3 + 9r - 8r^2)$

15) $(13n^2 + 11n - 2n^4) + (-13n^2 - 3n - 6n^4)$

16) $(-7x^5 + 14 - 2x) + (10x^4 + 7x + 5x^5)$

17) $(7 - 13x^3 - 11x) - (2x^3 + 8 - 4x^5)$

18) $(13a^2 - 6a^5 - 2a) - (-10a^2 - 11a^5 + 9a)$

19) $(3v^5 + 8v^3 - 10v^2) - (-12v^5 + 4v^3 + 14v^2)$

20) $(8b^3 - 6 + 3b^4) - (b^4 - 7b^3 - 3)$

21) $(k^4 - 3 - 3k^3) + (-5k^4 + 6k^3 - 8k^5)$

22) $(-10k^2 + 7k + 6k^4) + (-14 - 4k^4 - 14k)$

23) $(-7n^2 + 8n - 4) - (-11n + 2 - 14n^2)$

24) $(14p^4 + 11p^2 - 9p^5) - (-14 + 5p^5 - 11p^2)$

25) $(8k + k^2 - 6) - (-10k + 7 - 2k^2)$

26) $(-9v^2 - 8u) + (-2uv - 2u^2 + v^2) + (-v^2 + 4uv)$

27) $(4x^2 + 7x^3y^2) - (-6x^2 - 7x^3y^2 - 4x) - (10x + 9x^2)$

28) $(-5u^3v^4 + 9u) + (-5u^3v^4 - 8u + 8u^2v^2) + (-8u^4v^2 + 8u^3v^4)$

29) $(-9xy^3 - 9x^4y^3) + (3xy^3 + 7y^4 - 8x^4y^4) + (3x^4y^3 + 2xy^3)$

30) $(y^3 - 7x^4y^4) + (-10x^4y^3 + 6y^3 + 4x^4y^4) - (x^4y^3 + 6x^4y^4)$

Kuta Software - Infinite Algebra 1

Name_____

Multiplying Polynomials

Date_____ Period____

Find each product.

1) $6v(2v + 3)$

2) $7(-5v - 8)$

3) $2x(-2x - 3)$

4) $-4(v + 1)$

5) $(2n + 2)(6n + 1)$

6) $(4n + 1)(2n + 6)$

7) $(x - 3)(6x - 2)$

8) $(8p - 2)(6p + 2)$

9) $(6p + 8)(5p - 8)$

10) $(3m - 1)(8m + 7)$

11) $(2a - 1)(8a - 5)$

12) $(5n + 6)(5n - 5)$

13) $(4p-1)^2$

14) $(7x-6)(5x+6)$

15) $(6n+3)(6n-4)$

16) $(8n+1)(6n-3)$

17) $(6k+5)(5k+5)$

18) $(3x-4)(4x+3)$

19) $(4a+2)(6a^2-a+2)$

20) $(7k-3)(k^2-2k+7)$

21) $(7r^2-6r-6)(2r-4)$

22) $(n^2+6n-4)(2n-4)$

23) $(6n^2-6n-5)(7n^2+6n-5)$

Kuta Software - Infinite Algebra 1

Name_____

Dividing Polynomials

Date_____ Period____

Divide.

1) $(m^2 - 7m - 11) \div (m - 8)$

2) $(n^2 - n - 29) \div (n - 6)$

3) $(n^2 + 10n + 18) \div (n + 5)$

4) $(k^2 - 7k + 10) \div (k - 1)$

5) $(n^2 - 3n - 21) \div (n - 7)$

6) $(a^2 - 28) \div (a - 5)$

7) $(r^2 + 14r + 38) \div (r + 8)$

8) $(x^2 + 5x + 3) \div (x + 6)$

9) $(2x^2 - 17x - 38) \div (2x + 3)$

10) $(42x^2 - 33) \div (7x + 7)$

11) $(x^2 - 74) \div (x - 8)$

12) $(2p^2 + 7p - 39) \div (2p - 7)$

13) $(n^3 + 7n^2 + 14n + 3) \div (n + 2)$

14) $(p^3 - 10p^2 + 20p + 26) \div (p - 5)$

15) $(v^3 - 2v^2 - 14v - 5) \div (v + 3)$

16) $(x^3 - 13x^2 + 40x + 18) \div (x - 7)$

17) $(k^3 - 30k - 18 - 4k^2) \div (3 + k)$

18) $(-5k^2 + k^3 + 8k + 4) \div (-1 + k)$

19) $(x^3 + 5x^2 - 32x - 7) \div (x - 4)$

20) $(50k^3 + 10k^2 - 35k - 7) \div (5k - 4)$