

Hello everyone! Below you will find a list of the different topics that will be covered over the next two weeks. For this section of time, we are covering Expressions, Equations and Inequalities, Systems, and Functions. While we don't currently have specifics on exactly how the grading process will work, we can assure you that by completing all of the work provided to you for the remainder of the school year, it can only improve your grade. Any work completed from this point forward, cannot negatively impact you in any way. While you may be happy with your current average and decide to opt out of doing the work that is being provided to you, it is strongly encouraged that you complete every assignment as it will prepare you for future math courses. Below you will find links to each skill that were tested over for Tests 1 - 4. Please watch the following videos listed below. In Schoology you will see an assignment loaded that is called Expressions, Equations and Inequalities, Systems, and Linear Functions. Make sure that you complete either the paper packet (make sure to mark your answers on the bubble sheet provided at the end of the packet) or the online portion of this assignment in Schoology, in order to receive any additional credit for the course. (Reminder, if you do not do any additional work, your grade will stand as what it was at the end of 3rd 9 weeks. In order to improve your grade, you must complete the assignments you will be receiving throughout the remainder of the school year). In Schoology you will have an unlimited number of attempts to complete the assignment for the best possible grade. Remember, the grades will not be added into infinite campus until after we have received further instructions on how grades will be counted. Your individual teacher will be available to answer any and all questions you may have so please feel free to contact them through Remind or through their school email which are listed on the BHS web page under Teacher Websites.

Watch the following videos:

You will need to first be familiar with Expressions, Polynomials, and Operations with Polynomials.

Parts of Expressions

Introduction of Polynomials

Adding Polynomials

Subtracting Polynomials

Multiplying Polynomials

Multiplying Polynomials (FOIL Method)

Multiplying Polynomials (Box Method)

Next, you need to be able to perform the following: Simplify Radicals, Operations with Radicals. Then you need to be able to identify rational and irrational numbers (The Real Number System). Lastly, you need to be able to solve and graph linear equations (proofs and consecutive integers); solve and graph inequalities and systems of equations and inequalities; identify functions; find the domain and range of a function; and write recursive and explicit formulas for arithmetic sequences. I have provided different videos to watch for different skills so just watch whichever one is easiest for you to understand.

1. How to Simplify Radicals.

- a. Video 1
- b. Video 2
- c. Video 3

2. How to Add, Subtract, Multiply Radicals

- a. Add and Subtract Radicals 1
- b. Add and Subtract Radicals 2
- c. Multiplying Radicals

3. How to identify Rational and Irrational Numbers

- a. Video 1
- b. Video 2

4. How to solve Multi-Step Equations (Proofs) and Consecutive Integers Word Problems

- a. Video 1
- b. Video 2
- c. Video 3
- d. Properties
- e. Proportional Equations
- f. Literal Equations
- g. Consecutive Integers
- h. Conversions

5. How to solve and graph Inequalities

- a. Video 1
- b. Video 2
- c. Video 3

6. System of Equations

- a. Graph Equations in Slope-Intercept Form
- b. Graphing Linear Equations
- c. Linear Equation Word Problems
- d. System of Equations by Graphing
- e. System of Equations by Substitution
- f. System of Equations by Elimination
- g. System of Equations Word Problems

7. Systems of Inequalities

- a. Video 1
- b. Video 2
- c. Video 3

8. Functions

- a. Introduction to Functions
- b. Relations and Functions
- c. Domain and Range
- d. Function Notation
- e. Function Tables
- f. Review of Slope

9. Arithmetic Sequences

- a. Video 1
- b. Video 2
- c. Video 3
- d. Video 4

Question 1 (1 point)

Subtract.

$$(x^3 - 2x + 3) - (3x^2 + 4x - 3)$$

- a $-2x^3 - 6x + 6$
- b $x^3 + 3x^2 + 2x$
- c $-x^3 + 3x^2 + 6x - 6$
- d $x^3 - 3x^2 - 6x + 6$

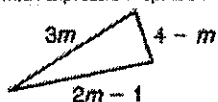
Question 2 (1 point)

Solve $A = \frac{1}{2}bh$ for h .

- a $h = A - \frac{1}{2}B$
- b $h = \frac{2A}{b}$
- c $h = \frac{A}{2b}$
- d $h = \frac{b}{2A}$

Question 3 (1 point)

Which expression represents the perimeter of the triangle below?



- a $3 + 4m$
- b $5 + 4m$
- c $3 + 6m$
- d $5 + 6m$

Question 4 (1 point)

In the problem below, which line contains an error?

Line 1: $6x - 2(x - 5) = 12$

Line 2: $6x - 2x - 10 = 22$

Line 3: $4x - 10 = 22$

Line 4: $4x = 32$

Line 5: $x = 8$

The line with the error is line _.

- a 1
- b 2
- c 3
- d 4

Question 5 (1 point)

Solve for y.

$$\frac{6}{y-5} = \frac{18}{y+1}$$

- a 7
- b 16
- c 8
- d 12

Question 6 (1 point)

The steps for solving an equation are shown below. Put the properties in the order in which they are used to solve the equation.

$$2(5x - 7) = 2x + 10$$

$$10x - 14 = 2x + 10$$

$$\begin{array}{r} -2x \quad -2x \\ 10x - 14 = 2x + 10 \\ \hline 8x - 14 = 10 \end{array}$$

$$8x - 14 = 10$$

$$\begin{array}{r} +14 \quad +14 \\ 8x - 14 = 10 \\ \hline 8x = 24 \end{array}$$

$$8x = 24$$

$$\begin{array}{r} \div 8 \quad \div 8 \\ 8x = 24 \\ \hline x = 3 \end{array}$$

$$x = 3$$

- a Distributive Property, Addition Property of Equality, Subtraction Property of Equality, Division Property of Equality
- b Addition Property of Equality, Distributive Property, Subtraction Property of Equality, Division Property of Equality
- c Distributive Property, Subtraction Property of Equality, Addition Property of Equality, Division Property of Equality
- d Subtraction Property of Equality, Addition Property of Equality, Distributive Property, Division Property of Equality

Question 7 (1 point)

Solve.

$$13w - 2(4w + 1) = w - 58$$

w =

- a -14
- b 23
- c -19
- d 15

Question 8 (1 point)

Solve $-6m - 6 + 8m = -5 + 2m - 1$. Tell whether the equation has infinitely many solutions or no solutions.

- a Only one solution
- b No solutions
- c Two solutions
- d Infinitely many solutions

Question 9 (1 point)

Solve the inequality below.

$$-12 \leq 2x - 4 < -4$$

- a $-2 \leq x < 6$
- b $-10 \leq x < -2$
- c $0 \leq x < 4$
- d $-4 \leq x < 0$

Question 10 (1 point)



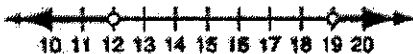

Which represents the solution to the inequality below in interval notation?

$$4x + 7(3x - 3) \leq 9 - 5x$$

- a $(-\infty, 1]$
- b $[-1, \infty)$
- c $(-\infty, 1)$
- d $[1, \infty)$

Question 11 (1 point)

Which of the following is a graph of the solutions of $2x < 24$ OR $x - 6 > 13$?

- a 
- b 
- c 
- d 

Question 12 (1 point)

Solve $2x + 7 \geq x + x + 1$.

- a no solutions
- b all real numbers
- c $x \geq -\frac{1}{2}$
- d $x \geq 1$

Question 13 (1 point)

Solve $P = 2(l + w)$ for l .

- a $l = \frac{P}{2} + w$
- b $l = \frac{P}{2} - w$
- c $l = \frac{P + w}{2}$
- d $l = \frac{P - w}{2}$

Question 14 (1 point)

Which values from the set $\{1, 2, 3, 4, 5, 6\}$ are solutions of $9 < 2x + 3$?

- a $x = \{1, 2, 3, 4, 5, 6\}$
- b $x = \{3, 4, 5, 6\}$
- c $x = \{4, 5, 6\}$
- d $x = \{1, 2\}$

Question 15 (1 point)

Describe the error Tamba made when simplifying the expression shown.

$$4(3x - 1) = 12x - 1$$

- a The common terms were not collected.
- b The factor was not multiplied by both terms.
- c The expression was changed from one term into two.
- d The coefficient in the simplified expression is not 12.

Question 16 (1 point)

How many terms are in the algebraic expression $2x - 9xy + 17y^2$?

- a 17
- b 1
- c 4
- d 3

Question 17 (1 point)

Which of the following is not a rational number?

- a The product of 2 and $0.\bar{3}$
- b The product of 2 and $\sqrt{2}$
- c The sum of $\frac{3}{7}$ and $\frac{1}{2}$
- d The sum of $2 + \sqrt{3}$, and $5 - \sqrt{3}$

Question 18 (1 point)

Which word best describes the sum of $\sqrt{13}$ and $\sqrt{19}$?

- a rational
- b natural
- c imaginary
- d irrational

Question 19 (1 point)

Simplify.

$$-3\sqrt{54} + 2\sqrt{54} - 3\sqrt{20}$$

- a $6\sqrt{6}$
- b $-3\sqrt{6} - 6\sqrt{5}$
- c $-3\sqrt{6}$
- d $12\sqrt{6}$

Question 20 (1 point)

Simplify.

$$\sqrt{8} \cdot \sqrt{2}$$

- a 4
- b $\sqrt{8+2}$
- c 16
- d $\sqrt{10}$

Question 21 (1 point)

Find the 20th term in the arithmetic sequence $-4, 1, 6, 11, 16, \dots$

- a 96
- b 72
- c 95
- d 91

Question 22 (1 point)

Which equation describes the n^{th} term of the arithmetic sequence $\{2, -1, -4, -7, \dots\}$

- A. $a_n = 2n - 5$
- B. $a_n = 3n - 1$
- C. $a_n = -3n - 10$
- D. $a_n = -3n + 5$

- a A
- b B
- c C
- d D

Question 23 (1 point)

Given the sequence $\{-1, 3, 7, 11, \dots\}$, find a_{25}

- A. 103
- B. 99
- C. 95
- D. 91

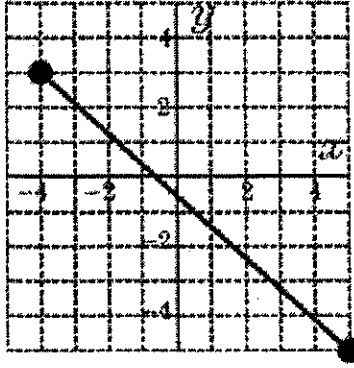
Question 24 (1 point)

Given the relation $R = \{(-2, 3), (a, 4), (1, 9), (0, 7)\}$.
Which replacement for a makes this relation a function

- a 0
- b 4
- c -2
- d 1

Question 25 (1 point)

State the range of the function.



- a $-5 \leq y \leq 3$
- b $\{-5, -4, -3, -2, -1, 0, 1, 2, 3\}$
- c $y \geq -4$
- d $-4 \leq y \leq 5$

Question 26 (1 point)

Solve the system by the elimination method.

$$\begin{aligned}x - 7y &= -2 \\ -5x - 6y &= 10\end{aligned}$$

- a $\{-1, -2\}$
- b $\{-2, 0\}$
- c $\{-1, -1\}$
- d \emptyset

Question 27 (1 point)

Solve the system by the elimination method.

$$\begin{aligned}5x + 8y &= 48 \\ -2x - 3y &= -18\end{aligned}$$

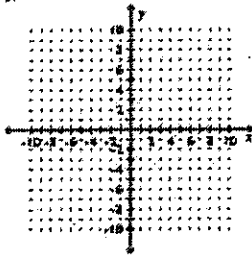
- a $\{(0, 7)\}$
- b $\{-1, 7\}$
- c $\{(0, 6)\}$
- d \emptyset

Question 28 (1 point)

Solve the system by graphing.

$$3x + y = 3$$

$$y = 2x + 3$$



- a $\{(3, 0)\}$
- b $\{(3, -6)\}$
- c $\{(-1, 1)\}$
- d $\{(0, 3)\}$

Question 29 (1 point)

Solve by the substitution method.

$$8x + 9y = -9$$

$$4x - 7y = 7$$

- a $\{(-1, 0)\}$
- b $\{(0, -1)\}$
- c $\{(0, 0)\}$
- d \emptyset

Question 30 (1 point)

Tell whether the ordered pair $(5, -3)$ is a solution of the system
$$\begin{cases} -3x + 2y = -21 \\ -x - y = -2 \end{cases}$$

- a yes
- b no

Question 31 (1 point)

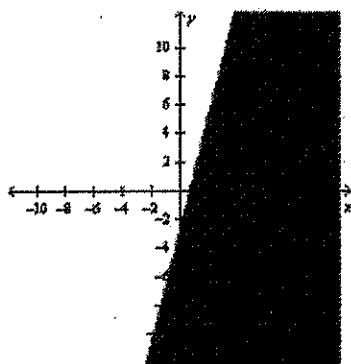
Solve
$$\begin{cases} 3x + y = -3 \\ y = -x + 5 \end{cases}$$
 by substitution. Express your answer as an ordered pair.

- a $(3, -2)$
- b $(-2, 3)$
- c $(-\frac{4}{3}, 1)$
- d $(-\frac{8}{3}, -3)$

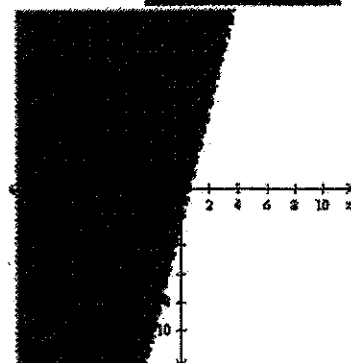
Question 32 (1 point)

Graph the solutions of the linear inequality $-8x + 2y > -6$.

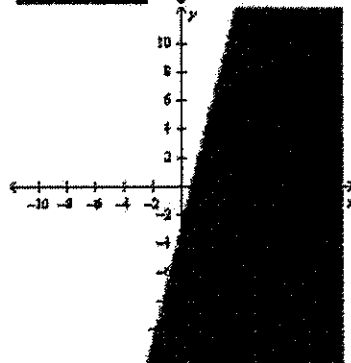
a



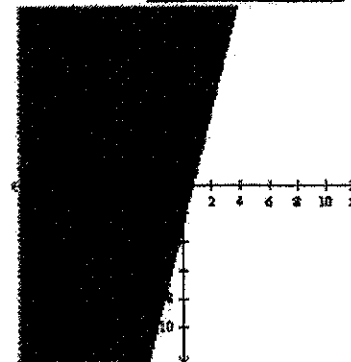
b



c



d



Question 33 (1 point)

Solve by the method specified.

Substitution method

$$x - 7y = 31$$

$$-2x - 8y = 48$$

- a $(-4, -5)$
- b $(4, -4)$
- c $(-5, -5)$
- d $(-5, -4)$

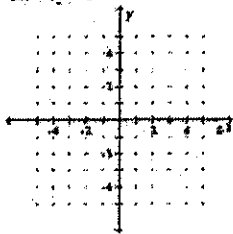
Question 34 (1 point)

Solve by the method specified.

Graphing method

$$5x + y = -21$$

$$2x + 6y = 8$$



- a $(-5, -6)$
- b $(-5, 3)$
- c $(5, 3)$
- d $(-4, -2)$

Question 35 (1 point)

Solve.

On a buying trip in Los Angeles, Rosaria Paraz ordered 120 pieces of jewelry: a number of bracelets at \$10 each and a number of necklaces at \$13 each. She wrote a check for \$1350 to pay for the order. How many bracelets and how many necklaces did Rosaria purchase?

- a 70 bracelets and 50 necklaces
- b 75 bracelets and 45 necklaces
- c 65 bracelets and 55 necklaces
- d 80 bracelets and 40 necklaces

Question 36 (1 point)

Write a recursive rule for the sequence.

1, 7, 13, 19,.....

- a $a_1 = -5, a_n = a_{n-1} - 5$
- b $a_1 = -5, a_n = a_{n-1} + 6$
- c $a_1 = 1, a_n = a_{n-1} + 6$
- d $a_1 = 1, a_n = a_{n-1} - 5$

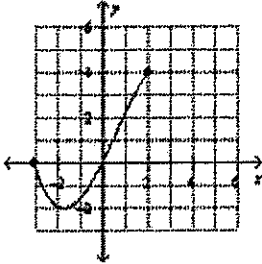
Question 37 (1 point)

For $f(x) = -5x - 2$, evaluate $f(5)$.

- a 23
- b -27
- c -32
- d 15

Question 38 (1 point)

Give the domain and range of the relation



- a $D: -3 \leq x \leq 2$; $R: 0 \leq y \leq 4$
- b $D: -2 \leq x \leq 4$; $R: -3 \leq y \leq 2$
- c $D: -3 \leq x \leq 2$; $R: -2 \leq y \leq 4$
- d $D: -3 \leq x \leq 2$; $R: -3 \leq y \leq 6$

Question 39 (1 point)

Evaluate the function $f(x) = 2x + 8$ when $x = 6$.

- a 96
- b 16
- c 28
- d 20

Name _____

Assignment Expressions, Equations and Inequalities, Systems, and Linear Functions

		A	B	C	D		A	B	C	D
1.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	22.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	23.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	24.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	25.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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9.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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20.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>