Algebra II
Summer Packet

Math Summer Review Packet

Why?

1) Because all students can improve their math skills

2) Because math is the gateway to opportunities after high school

- *The vocabulary and exercises in this review packet are designed to help you review topics from previous mathematics courses that are important to your success in this course.*
- *This review packet will be graded, and this grade will become your first grade for the course.*
- *To receive credit, you must show your work for each exercise.*
- *Someone may assist you, if needed, but you need to write out all solutions and attempt to understand or remember the process and the vocabulary.*
- *Assessments in September will further check your understanding of the topics contained in this review packet.*
- *Ten bonus points will be earned by all students who return this completed review packet on the first day of school.*
- *Beginning the third day of school, five points per day will be deducted from the grade earned.*
- *Ten points will be deducted each day from the grade earned during the second week of school.*
- *After the second week of school, completed review packets will not be accepted and students will earn a grade of zero.*
- *Additional copies of this review packet can be printed from the Mathematics Department website (*in pdf*) at:*

http://enfield.sharpschool.com/departments/mathematics/

Here are some websites that you may find useful if you need help:

http://www.math.com/

http://www.mathleague.com/help/help.htm

http://www.freemathhelp.com/algebra-help.html

http://mathforum.org/library/drmath/drmath.high.html

http://www.mathtv.com

http://www.brightstorm.com

http://www.schooltube.com

http://www.purplemath.com

You may also want to check the resources available at your local library.

Calculators in Math Class

Used wisely, calculators can be a powerful instructional tool. Students are expected to bring an appropriate calculator to class on a daily basis. Please note that cell phone calculator applications cannot be used on any test or quiz.

To meet Common Core Expectations, a Graphing Calculator is recommended for all math classes. Students will need to become comfortable and knowledgeable with graphing calculator technology in preparation for the new state test which will be administered to all students in Grade 11. A suitable Graphing Calculator can be purchased for approximately $100.00. One example of an appropriate graphing calculator would be the TI-83 Plus. In preparation for the new school year, graphing calculators are usually on sale during the month of August.

For some applications, a Scientific Calculator may also be used in class. A suitable Scientific Calculator can be purchased for less than $20.00. An example of an appropriate calculator would be the Texas Instruments TI-30XIIS Scientific Calculator.

Course	**Calculator Type**
Algebra 1	Graphing Calculator, if possible, or a Scientific Calculator
Geometry	Graphing Calculator, if possible, or a Scientific Calculator
Algebra 2	Graphing Calculator
Precalculus	Graphing Calculator
Calculus	Graphing Calculator
SAT	Graphing Calculator, if possible, or a Scientific Calculator
Statistics & Probability	Graphing Calculator, if possible, or a Scientific Calculator

If a student cannot afford the purchase of a graphing calculator, the school has a ***limited*** supply that can be loaned to students for the school year. To borrow a calculator for the school year, a loan form must be signed by the parent or guardian indicating that the student will replace the calculator with an equivalent one in an unopened package if the calculator is damaged or lost.

Algebra II Summer Packet Name_____

Answer Sheet (write all answers on this sheet)

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33. _____

1) What is the distance between points A(3,1) and B(5,-3)?

A) $2\sqrt{5}$ B) $\sqrt{68}$ C) $\sqrt{24}$ D) 4

Please show all work here:

2) Which of these values of x satisfies the inequality $-7x + 6 \leq -8$

A) -2 B) 0 C) 7 D) -7

Please show all work here:

3) What is the slope of the line perpendicular to the line **y = -5x + 9**?

A) 5 B) -5 C) 1/5 D) -1/5

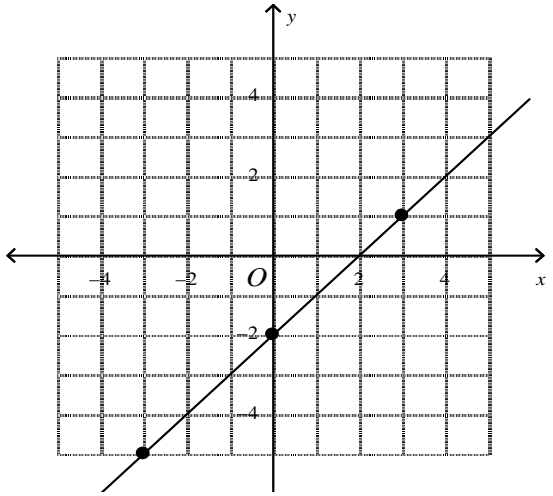
Please show all work here:

4) What is the slope of a line passing through the points (3,5) and (-2,6)?

A) -1/5 B) -1 C) -5 D) 11/5

Please show all work here:

5) What is the slope of the line?



A) 2/3 B) 3/2 C) 1 D) -2/3

Please show all work here:

6) Which of the following is *not* true?

A) $16.701 < 16.71$ B) $53.23 = 53.2300$

C) $25.500 > 25.5$ D) $5.225 > 5.215$

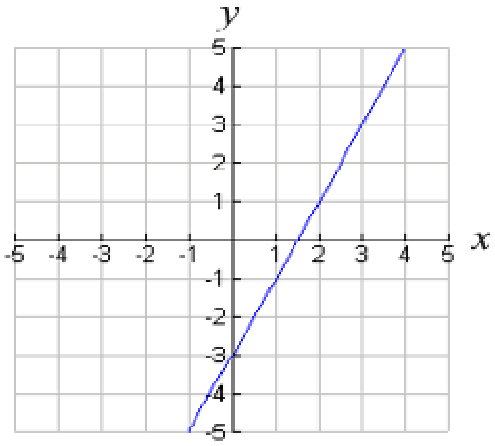
Please show all work here:

7) Which of the following are listed in the correct order *least to greatest.*

A) $-2, -1\frac{1}{4}, -0.8, -1/2, 0.8, 2$ B) $-2, -1\frac{1}{4}, -1/2, -0.8, 0.8, 2$

C) $2, 0.8, -1/2, -0.8, -1\frac{1}{4}, -2$ D) $-2, -1/2, -0.8, -1\frac{1}{4}, 0.8, 2$

Please show all work here:



8) What is the equation of this line?

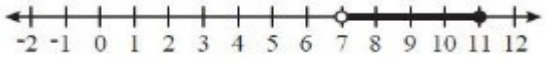
A) y =5x+1 B) y = 2x -3 C) y = -3x D) y = -2x - 3

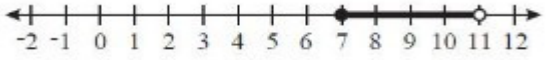
Please show all work here:

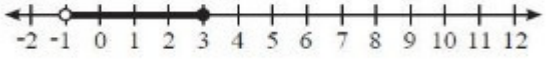
Which graph shows the solution to the inequality shown below?

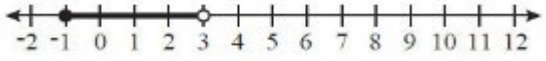
$$15 \leq 7n - 2(n - 10) < 35$$

9)

A. 

B. 

C. 

D. 

Please show all work here:

10) A discontinued pair of Coach shoes are on sale at the outlet store. The shoes are originally priced at $268. The discount sticker is the color red and the red stickers are worth a 45% off discount. Calculate the sale price of the shoes before tax.

A) $147.40 B) $120.60 C) $267.55 D) $139.00

Please show all work here:

11) SOLVE the proportion for X:

$$\frac{X}{6} = \frac{25}{30}$$

A) 3 B) 7 C) 5 D) 150

Please show all work here:

12) Evaluate: $4 - (6 \cdot 2)^2 + 2$

A) - 138 B) 138 C) 18 D) 146

Please show all work here:

13) Solve: $2x + 7 = 10$

A) - 2 B) 17/2 C) 3/2 D) 27

Please show all work here:

14) $5x - 7 = 2x + 2$

A) 3 B) -3 C) 7/5 D) 1/3

Please show all work here:

15) Simplify $\sqrt{360}$

A) 36 B) $9\sqrt{2}$ C) $10\sqrt{6}$ D) $6\sqrt{10}$

Please show all work here:

16) $3^2 \cdot 3^5$

A) 3^{10} B) 135 C) 9^7 D) 3^7

Please show all work here:

17) $(3x^2y^3)^4$

A) $3x^8y^{12}$ B) $12x^8y^{12}$ C) $3^4x^8y^{12}$ D) $3^4x^6y^7$

Please show all work here:

18) Simplify: $\dfrac{12x^4y^5}{8xy^7z}$

A) $4xyz$ B) $\dfrac{4x^4}{y^2z}$ C) $\dfrac{3x^4y^2}{2z}$ D) $\dfrac{3x^3}{2y^2z}$

Please show all work here:

19) Find the Greatest Common Factor:

$6X^3 + 8X^2 - 12X$

A) 2 B) 2X C) 6X D) 3

Please show all work here:

20) FACTOR the expression by pulling out the GCF:

$27X^3Y^4 + 18XY^{10}$

A) $9XY^4(3X^2 + 2Y^6)$ B) 3XY C) $9XY^4$ D) $3X^2 + 2Y^6$

Please show all work here:

21) FACTOR the expression into the product of two binomials:

$X^2 + 13X + 30$

A) $(X - 5)(X - 6)$ B) $(X + 2)(X + 15)$ C) $(X + 15)(X - 2)$ D) $(X + 3)(X + 10)$

Please show all work here:

22) FACTOR the expression into the product of two binomials:

$X^2 + 3X - 28$

A) $(X - 14)(X - 2)$ B) $(X - 4)(X - 7)$ C) $(X + 7)(X - 4)$ D) $(X + 2)(X - 14)$

Please show all work here:

23) FACTOR the expression into the product of two binomials:

$3X^2 - 7X - 6$

A) $(3X - 2)(X - 3)$ B) $(3X - 3)(3X + 2)$ C) $(X - 6)(X - 1)$ D) $(3X + 2)(X - 3)$

Please show all work here:

24) FACTOR the expression into the product of two binomials:

$X^2 - 49$

A) $(X - 7)(X + 7)$ B) $(X - 49)(X + 1)$ C) $X(X - 49)$ D) $(X + 7)(X - 7)$

Please show all work here:

25) SOLVE the system of equations for the point of intersection.

$2X + Y = 6$

$5X - 3Y = 26$

A) (2 , 5) B) (1 , -3) C) (-2 , 4) D) (4 , -2)

Please show all work here:

26) Cole and Jimmy have started collecting baseball cards. Cole got 260 cards from his older brother and has now started adding to that total when he buys a new pack of 25 cards each week. Jimmy started his collection when he was given 5 rookie cards from players on his favorite team. Jimmy is now buying 40 cards each week. The boys have agreed to stop buying cards when Jimmy's collection catches up to Cole's. How many weeks will it take until the boys have the same number of baseball cards in each of their collections?

A) 15 B) 17 C) 255 D) 240

Please show all work here:

27) What is the simplest form of $(12s^2 + 8s - 6) - (9s^2 - 2s + 5)$?

A) $3s^2 + 6s - 1$ B) $3s^2 + 10s - 11$ C) $3s^2 + 10s + 11$ D) $3s^2 + 6s - 11$

Please show all work here:

28) What is the simplest form of $(5x + 2)(3x - 4)$?

A) $15x^2 - 8$ B) $10x^2 - 8x + 26$ C) $25x^2 + 10x - 4$ D) $15x^2 - 14x - 8$

Please show all work here:

29) Rewrite the following equation in standard form: $x^2 - 7x = -12$

A) $X^2 = 7x - 12$ B) $x^2 - 7x + 12 = 0$ C) $x^2 - 7x = -12$ D) $x^2 + 12 = -7x$

Please show all work here:

30) Multiply: $3b\,(5b^2 - b - 7)$

A) $6b^3 + 30b^2 - 11b$ B) $2b^3 + 4b^2 + 13b$

C) $15b^3 - 3b^2 - 21b$ D) $15b^3 + 29b^2 + 11b$

Please show all work here:

31) Find the quotient: $\frac{(20x^3 - 8x^2 + 15x - 6)}{(5x - 2)}$

A) $4x^2 - \frac{16}{5}x + \frac{43}{25}$ B) $4x^2 + 3 - \frac{4}{(5X-2)}$ C) $4x^2 - \frac{12}{5}x - \frac{87}{25}$ D) $4x^2 + 3$

Please show all work here:

32) Find the product: $\frac{3a^2b}{6b^2c^3} * \frac{12bc}{15a}$

A) ab/3c B) $2a^2b/5c$ C) $2a/5c^2$ D) $a^2/3c^2$

Please show all work here:

33) Find the sum: $\frac{2x + 3}{(x - 4)^2} + \frac{x + 4}{4 - x}$

A) $\frac{x^2 + 2x - 13}{(x - 4)^2}$ B) $\frac{x - 1}{x - 4}$ C) $\frac{x - 1}{(x - 4)^2}$ D) $\frac{-x^2 + 2x + 19}{(x - 4)^2}$

Please show all work here: