

Salisbury School

Summer Training Packet

Grow Your Skills for Success

For Students Entering Algebra 2/Honors A2 Trig

Name: _____

- 1) This packet is an opportunity for you to sharpen your math skills so that you enter the new school year with confidence.
- 2) Complete all the work in the packet or on a separate sheet of paper. Please do the work on your own. This is your practice, and you will only get better if you do them yourself.
- 3) Bring the packet with you on the first day of classes.

A2 Summer Skills Training

Name: _____

Set 1 of 4

You will not have nearly enough space to solve most of these problems on this sheet. Please show your work on a separate sheet of paper. Please write your name and the problem number on all additional pages.

6A) Evaluate.

$$\pm\sqrt{400}$$

6B) Evaluate.

$$-\sqrt{100}$$

6C) Evaluate for the given value of the variable.

$$4x^3 + 2 \text{ when } x = 3$$

6D) Evaluate for the given value of the variable.

$$\frac{x-3}{4} \text{ when } x = 4$$

6E) Simplify.

$$\frac{8x+6}{2}$$

6F) Simplify.

$$-(10 - 7x)$$

6G) Solve.

$$17x = 85$$

6H) Solve.

$$\frac{4}{x+1} = \frac{3}{x+2}$$

Summer Review

1 of 4 (Continued)

6I) 9 is what percent of 6?	6J) A pair of jeans, whose regular price is \$48.00, is placed on sale at a 40% discount. What is the sale price?
6K) Evaluate. $3.8 - (-2.7)$	6L) Evaluate. $(33 - 13) - (-8 + 10)$
6M) Evaluate. $(-2)^3$	6N) Evaluate. $(-2)^4$
6O) Evaluate V for the given values of the variables. $V = pr^2h$ when $p = 3.14, r = 4, h = 7$	6P) Evaluate P for the given values of the variables. $P = \frac{5000T}{V}$ when $T = 300, V = 20$

6Q) TruCraft Motors discounts the cost of a car by 10% and then runs another special one-day deal offering an additional 20% off the discounted price. What discount does this represent from the original price of the car?

- (A) 28%
- (B) 30%
- (C) 40%
- (D) 72%

6R) Julia scored 82, 84, and 95 on her first three math tests? What score does she need on her fourth to bring her average up to 90?

- (A) 90
- (B) 92
- (C) 96
- (D) 99

6S) Two positive whole numbers are in a ratio of 3 to 4. If the smaller of the two numbers is 9, what is the average of the two numbers?

- (A) 4
- (B) 10
- (C) 10.5
- (D) 12

A2 Summer Skills Training

Name: _____

Set 2 of 4

You will not have nearly enough space to solve most of these problems on this sheet. Please show your work on a separate sheet of paper. Please write your name and the problem number on all additional pages.

2A) Evaluate for the given value of the variables.

$$4.25q \text{ when } q = 6.2$$

2B) Evaluate for the given value of the variables.

$$(a - b)^4 \text{ when } a = 10 \text{ and } y = 9$$

2C) Evaluate for the given value of the variables.

$$x + y^2 \text{ when } x = 5 \text{ and } y = 9$$

2D) Evaluate for the given value of the variables.

$$3^n \text{ when } n = 4$$

2E) Evaluate.

$$4[(29 - 12) + 10]$$

2F) Evaluate.

$$6[44 \div (10 - 8)^2] + 7$$

2G) Write an equation, in slope-intercept form, of the line that passes through the given point and is parallel to the given line.

$$(5, -8); y = \frac{5}{2}x + 4$$

2H) Write an equation, in slope-intercept form, of the line that passes through the given point and is parallel to the given line.

$$(2, -3); 6y = -2x + 1$$

<p>2I) The total bill (parts and labor) for the repair of a car was \$458. The cost of parts was \$339. The cost of labor was \$34 per hour. Write and solve an equation to find the number of hours of labor.</p>	<p>2J) In a construction project, a football stadium increased its 60,000-seat capacity by 15%. How many seats will be available when the project is completed?</p>
<p>2K) Write the linear equation in slope-intercept form.</p> $4 = 8x + 2y$	<p>2L) Write the linear equation in slope-intercept form.</p> $2y - 10x = 16$
<p>2M) Perimeter: $P = 2l + 2w$ Solve for w.</p>	<p>2N) Area of triangle: $A = \frac{1}{2}bh$ Solve for h.</p>
<p>2O) Write an inequality and solve.</p> <p>Betty earns a salary of \$14,000 per year plus an 8% commission on all her sales. How much must her sales total if her annual income is to be no less than \$15,600?</p>	<p>2P) Write an inequality and solve.</p> <p>A bag contains 100 marbles, some red, the rest blue. If there are no more than $1\frac{1}{2}$ times as many red marbles as blue ones in the bag, how many red marbles, at most, are in the bag? How many blue marbles, at least, are in the bag?</p>

2Q) Which of the following is NOT the product of two prime numbers?

- (A) 33
- (B) 35
- (C) 45
- (D) 91

2R) If x , y , and z are consecutive even numbers, then what is the difference between x and z ?

- (A) 0
- (B) 1
- (C) 2
- (D) 4

2S) The product of 0.48 and 100 is approximately

- (A) 0.5
- (B) 4.8
- (C) 5
- (D) 50

Directions: This page has been designed to help you recall math vocabulary and concepts. For each problem, make the most appropriate choice from the math vocabulary on the right to fill in the blank.

- 1) ____ Dividing each side of an equation by the same number produces an equivalent equation. *If $ax = b$ (and $a \neq 0$), then $\frac{x}{a} = \frac{b}{a}$*
- 2) ____ Two numbers whose product is 1. $\frac{a}{b} \cdot \frac{b}{a} = 1$
- 3) ____ A value is equal to itself. $x = x$
- 4) ____ A number that cannot be written as the quotient of two integers.
- 5) ____ A plane divided into quadrants by x and y axes.
- 6) ____ The distance across a circle, through its center.
- 7) ____ Two lines that intersect to form right angles.
- 8) ____ If two values are equivalent, then one may be substituted for the other in any expression. *If $a = b$ then a can be substituted for b*
- 9) ____ The point (0,0) on a coordinate plane.
- 10) ____ In a right triangle, the side opposite the right angle.
- 11) ____ The distance around a figure, measured in linear units.
- 12) ____ The property that states $a + b = b + a$ and $a \cdot b = b \cdot a$
- 13) ____ The distance from the center to any point on the circle.
- 14) ____ Two geometric figures that have exactly the same size and shape.
- 15) ____ The property that states $a(b + c) = ab + ac$ and $a(b - c) = ab - ac$
- 16) ____ The product of any number and 1 is the original number.
- 17) ____ The sum of a number and its opposite is zero.
- 18) ____ Two lines in the same plane that do not intersect.
- 19) ____ In a right triangle, the sides adjacent to the right angle.
- 20) ____ Two angles whose measures have the sum 90° .
- 21) ____ The amount of surface covered by a figure, in square units.
- 22) ____ States that $a^2 + b^2 = c^2$.
- 23) ____ The sum of any number and zero is the original number.
- 24) ____ The value of a sum or product does not depend on how the numbers are grouped.

Math Vocabulary

radius **A**
 irrational number **B**
 area **C**
 additive inverse **D**
 hypotenuse **E**
 perpendicular **F**
 Pythagorean Theorem **G**
 additive identity **H**
 legs **I**
 reflexive property of equality **J**
 circumference **K**
 perimeter **L**
 parallel **M**
 division property of equality **N**
 congruent **O**
 distributive property **P**
 reciprocals **Q**
 substitution property of equality **R**
 commutative property **S**
 origin **T**
 coordinate plane **U**
 associative property **V**
 multiplicative identity **W**
 complementary **YX**

Summer Skills

Name: _____

Set 3 of 4

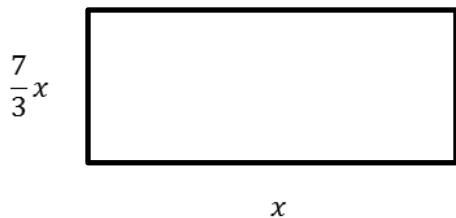
You will not have nearly enough space to solve most of these problems on this sheet. Please show your work on a separate sheet of paper. Please write your name and the problem number on all additional pages.

5A) Evaluate for the given value of the variable.

$$64 - \frac{32}{b} \text{ when } b = 4$$

5B) Evaluate for the given value of the variable.

$$6 + x^4 \text{ when } x = 2$$

5C) Find the area of the rectangle below when $x = 6$.

5D) Find the unit rate.

9 teaspoons for 4.5 servings

5E) Evaluate.

$$(-6) \left(-\frac{3}{2} \right) (7)(-11)$$

5F) Evaluate.

$$-16.2 + 6$$

5G) Write an equation, in slope-intercept form, of the line that passes through the given point and has the given slope m .

$$(5, -4); m = -1$$

5H) Write an equation, in slope-intercept form, of the line that passes through the given point and has the given slope m .

$$(-3, -1); m = \frac{4}{5}$$

5I) Find three consecutive integers such that twice the greatest integer is 2 less than 3 times the least.

5J)

3 is 1.5% of what number?

5K) Write the linear equation in standard form.

$$10 + 7x = 19 - 3y$$

5L)

70 is 200% of what number?

5M) Solve the inequality and graph its solution.

$$5x + 7 \geq 2$$

5N) Solve the inequality and graph its solution

$$x + 3 \leq -2 \text{ or } 10x - 3 > x + 15$$

5O)

Charlie chooses a number. He multiplies it by 4, then adds 8, then divides by 4, and finally subtracts 8. His end result is 4. What number did he choose?

5P)

Suppose it is now November. What month will it be 100 calendar months from now?

Summer Skills Training

Name: _____

Set 4 of 4

You will not have nearly enough space to solve most of these problems on this sheet. Please show your work on a separate sheet of paper. Please write your name and the problem number on all additional pages.

4A) Simplify.

$$\frac{14x + 21}{7}$$

4B) Simplify.

$$7x + 5(1 - x)$$

4C) Simplify.

$$(3 + 2y)(-3) + y$$

4D) Simplify

$$(2)(-y)y$$

4E) Solve.

$$-15x + 71 = 26$$

4F) Solve.

$$\frac{1}{4}x - 5 = 27$$

4G) A supermarket's cereal shelves have room for 510 boxes of cereal. Sales figures show that corn flakes, wheat flakes, and other cereals sell at the ratio of 5:3:9. How many boxes of each kind of cereal should be put on the shelves so that when the shelves are full the numbers of boxes will be in this ratio?

4H) A telemarketing company had a loss of \$2113.15 in July, a loss of \$597.11 in August, and a profit of \$4121.55 in September. Did the company make a profit during the 3-month period? If so, what was the profit?

4I) Evaluate.

$$|2 - (-1) + 4|$$

4J) Evaluate.

$$16.23 - (-14.2) + 9.3$$

4K) Evaluate.

$$|-4.2| - 6.5$$

4L) Evaluate.

$$(-4) \left[\frac{9}{10} \right] (-5)(-3)$$

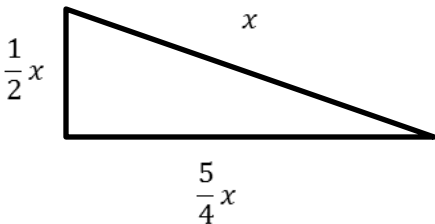
4M) Evaluate the expression for the given value of the variables.

$$4 + x + (-7) + (-3), \text{ when } x = 3$$

4N) Evaluate the expression for the given value of the variables.

$$2|3x + 5| \text{ when } x = 3$$

4O) Write and simplify an expression for the perimeter of the figure.



4P)

Write and simplify an expression for the area of a rectangle whose length is 2 more than three times its width.