

**Suffolk Public Schools**  
**Honors Algebra II/Trigonometry**  
**Summer Assignment 2017**

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Resources which will aid in the review of these skills can be found at [www.regentsprep.org](http://www.regentsprep.org) under “Algebra” and at Khan Academy <https://www.khanacademy.org/math/algebra>.

**Summer Assignment: The problems listed below are to be completed and turned in on the first day the class meets in September.**

**Option 1** – Complete the problems below.

1. **What is the simplified form of each expression?**

$$4(20 + 12) \div (4 - 3)$$

2. **Simplify each expression.**

$$\frac{4sg}{-5g}$$

$$(8 + 7a) + 4$$

3. **What is the simplified form of each expression?**

$$1.7m^2 + 6.5n - 4n + 2.5m^2 - n$$

4. **What is the solution of the equation?**

$$\frac{6}{7}x - 8 = 7$$

5. **What is the solution of the equation?**

$$2 = 6p - 8 - 5p$$

6. **What is the solution of the proportion?**

$$\frac{10}{8} = \frac{25}{x}$$

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7. Which number is a solution of the inequality?

$$8 < x(7 - x)$$

8. What are the solutions of the inequality? Check the solutions.

$$4x + 6 < -6$$

9. What are the solutions of the inequality?

$$2(b - 8) > 12$$

10. What are the solutions of the compound inequality?

$$-2 \leq 2x - 4 < 8$$

11. What are the solutions of the compound inequality?

$$2x - 2 < -12 \text{ or } 2x + 3 > 7$$

12. What are the solutions of the equation?

$$|x| + 10 = 1$$

13. What is the slope of the line that passes through the pair of points?

$$(1, 7), (10, 1)$$

14. Write an equation of a line with the given slope and y-intercept.

$$m = -5, b = -3$$

15. Graph the equation.

$$y = 4x - 3$$

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16. Graph the equation.

$$y - 4 = \frac{1}{5}(x + 1)$$

17. Graph the equation

$$0.5x + 0.2y = 0.1$$

18. What is the solution of the system?

$$y = -x + 2$$

$$y = 3x - 1$$

19. What is the solution of the system? Use substitution.

$$3x + 2y = 7$$

$$y = -3x + 1$$

20. Graph the linear inequalities.

$$y < 3x - 5$$

$$4x + 6y \geq 10$$

21. What is the simplified form of each expression?

$$(3k^3)^4$$

22. What is the simplified form of each expression?

$$\frac{c^9 d^{-7}}{c^{14} d^{-10}}$$

23. What is the product?

$$5a^2(3a^4 + 3b + 2)$$

24. What is the product?

$$(3x - 7)(3x - 5)$$

25. Expand the expression based on exponential rules and find the product.

$$(2x - 6)^2$$

26. What is the factored form of the following expressions?

$$w^2 + 18w + 77$$

$$d^2 + 2d - 48$$

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27. What is the factored form of the expression?

$$6x^2 + 5x + 1$$

28. What are the solutions of the equation?

$$z^2 - 12z + 36 = 0$$

29. Use the quadratic formula to solve the equation. If necessary, round to the nearest hundredth.

$$x^2 + 10 = -7x$$

30. Simplify the radical expression.

$$\sqrt{49a^8}$$

31. Simplify the expression.

$$4\sqrt{6} + 5\sqrt{6}$$

**Option 2-Complete the problems below. Attach any work to this paper for justification.**

**Simplify Polynomials**

1.  $2x+3-5x+10$  \_\_\_\_\_
2.  $(2a-3b)-(3a-4b)$  \_\_\_\_\_
3.  $2[4x-5(2x-1)]$  \_\_\_\_\_

**Solve Equations**

1.  $2x-3=5$  \_\_\_\_\_
2.  $2(3x-4)=5x$  \_\_\_\_\_
3.  $\frac{2}{3}x - 5 = 7$  \_\_\_\_\_
4.  $|2x-1|=5$  \_\_\_\_\_

**Solve Inequalities**

1.  $2x+3>11$  \_\_\_\_\_
2.  $5-2x\leq 9$  \_\_\_\_\_
3.  $2<x-1<5$  \_\_\_\_\_
4.  $x+3>5$  or  $2x<-18$  \_\_\_\_\_
5.  $|x+3|>6$  \_\_\_\_\_

**Systems of Equations**

1.  $2x+y=3$  \_\_\_\_\_  
 $3x-y=7$  \_\_\_\_\_
2.  $3x+5y=11$  \_\_\_\_\_  
 $x-3y=-1$  \_\_\_\_\_

**Linear Equations**

1.  $(3, 4), (-1, 2)$   $m=$  \_\_\_\_\_
2.  $2x+3y=12$   $m=$  \_\_\_\_\_
3.  $m=3, b=2$   $y=$  \_\_\_\_\_
4.  $m=3, \text{ point } (2, -1)$   $y=$  \_\_\_\_\_

**Simplify and Expand Exponents and Polynomials**

1.  $(2x^3)(5x^4)$  \_\_\_\_\_
2.  $(-2x^5y^3)^4$  \_\_\_\_\_
3.  $\frac{6x^3y^7}{2x^5y^4}$  \_\_\_\_\_
4.  $(2x^{-1}y^4)^{-2}$  \_\_\_\_\_
5.  $(x-3)(x+5)$  \_\_\_\_\_
6.  $(2x-5)^2$  \_\_\_\_\_

**Factoring**

1.  $x^2- 5x+ 4$  \_\_\_\_\_
2.  $x^2-25$  \_\_\_\_\_
3.  $x^2-x-12$  \_\_\_\_\_
4.  $3x^2-11x+10$  \_\_\_\_\_

**Simplify Radicals**

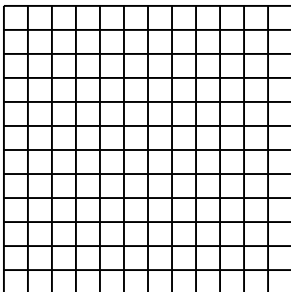
1.  $\sqrt{25}$  \_\_\_\_\_
2.  $\sqrt{28}$  \_\_\_\_\_
3.  $\sqrt{\frac{2}{3}}$  \_\_\_\_\_
4.  $5\sqrt{2} - \sqrt{7} + 3\sqrt{2} + 4\sqrt{2}$  \_\_\_\_\_
5.  $2\sqrt{3} \cdot 5\sqrt{3}$  \_\_\_\_\_

**Solve**

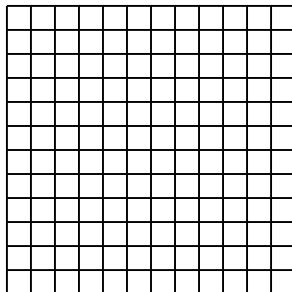
1.  $x^2+x-12=0$  \_\_\_\_\_
2.  $2x^2-9x+3=0$  \_\_\_\_\_
3.  $x^2=5x$  \_\_\_\_\_

**Graph.** (You may use your own graph paper and attach it to this assignment if needed)

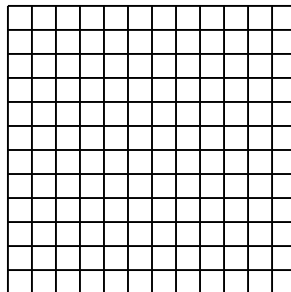
1.  $y=2x-3$



2.  $2x+3y=12$



3.  $y < \frac{2}{5}x + 1$



4.  $2x-3y>6$

