High School Algebra Core Curriculum Math Test
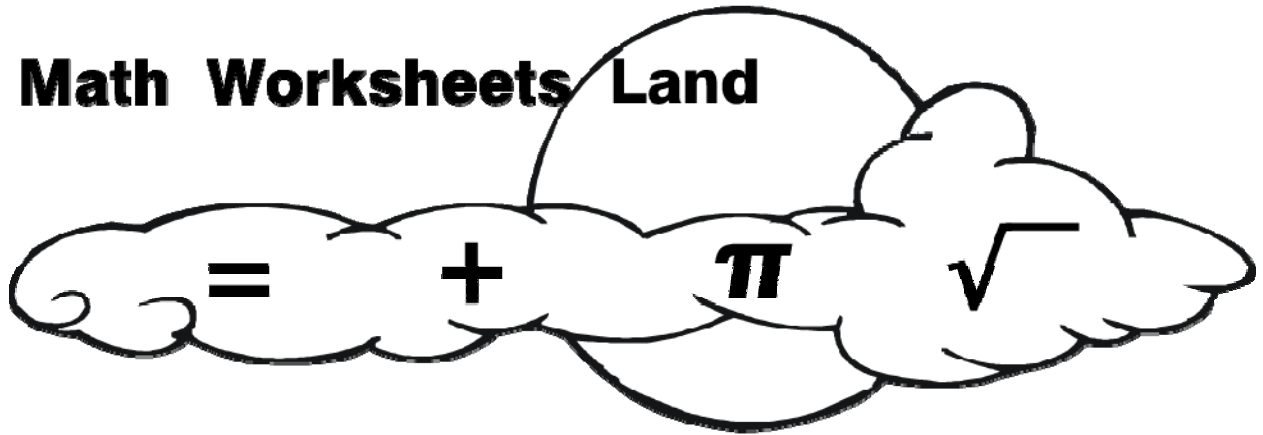
Math Common Core Sampler Test

Our High School Algebra sampler covers the twenty most common questions that we see targeted for this level. For complete tests and break downs of each section, please check out web site listed below.

High School Algebra Common Core Math Tests:

http://www.mathworksheetsland.com/tests/hsalgebra.html

For Full Algebra Worksheets, Quizzes, and Homework Samples:

http://www.mathworksheetsland.com/algebra/

QUIZ 1 OUTLINE

1. **Rewriting Expressions -HSA-SSE.A.2**
2. **Solving Quadratic Equations**
3. **Completing the Square in a Quadratic Expression**
4. **Writing Expression for Geometric Sequences**
5. **Polynomial Addition and Subtraction**
6. **Polynomial Multiplication**
7. **Rewriting Rational Expressions**
8. **Adding and Subtracting Rational Expressions**
9. **Creating Equations with Two or More Variables**
10. **Quadratic Equations: Completing the Square**
11. **Solving Quadratic Equations By Factoring**
12. **Solving Systems of Equations**
13. **Solving Rational and Radical Equations**
14. **Finding and Using the Discriminant**
15. **Linear Equations as a Matrix Equation**
16. **Using Graphs of Equations**
17. **Identifying Zeroes of Binomials**
18. **Proving Polynomial Identities**
19. **Multiplying and Dividing Rational Expressions**
20. **Rearranging and Understanding Formulas**

Complete all of the problems.

Instructions: Rewrite the expression in the format presented.

1. **5j – (j – 2k) +36 +5k**   **Rewrite as: _____ + _____ +36**

Instructions: Solve the Quadratic Equation

2. $r^2 + 3r = 0$

Instructions: Find the missing value to make the polynomials a perfect-square quadratic.

3. $f^2 - 10\,f +$ _____

Instructions: Write an equation to describe the sequence below. Use n to represent the position of a term in the sequence, where n = 1 for the first term.

4. **7, 28, 112, …..**

   Write your answer using decimals and integers.

   $a_n = \boxed{} \; (\boxed{})^{n-1}$

Instructions: Subtract

5. $(4x^2 + 3x - 8) - (7x^2 - x + 8)$

Instructions: Find the product and simplify.

6. $(a^3 - 3a + 6)(a^2 + a)$

Instructions: Simplify the rational expressions by rewriting them.

7. $\dfrac{d^2 + 2d + 1}{d^2 - 1}$

Instructions: Compute and simplify.

8. $\dfrac{4y^2}{5} + \dfrac{3y}{2} = $ _____

Name _____   Date _____

Instructions: Find the equation that gives the rule for this table.

9.

x	f(x)
4	24
7	45
9	59

Instructions: Find the missing value to make the polynomial a perfect-square quadratic.

10. $G^2 - 42G +$ _____

Instructions: Solve the quadratic equation.

11. $x^2 - 3x - 18 = 0$

Instructions: Solve using elimination.

12. $-6x + 2y = 7$
$6x + 6y = 1$

Instructions: Complete the problem by solving for the variable that is undefined.

13. $\sqrt{v} = \frac{2}{3}$

Instructions: Find the value of the discriminant.

14. $5z^2 - 2z + 1 = 0$

Instructions: Solve using augmented matrices.

15. $m - p = 2$
$\qquad p = 1$

16. **Graph the following equation.**

$\qquad f(x) = 2x + 2$

Instructions: Find the value of t for the following problem.

17. $(t + 14)(t - 5) = 0$

Instructions: Evaluate.

18. $(6b-7)(2b+3) = $ _____

Instructions: Divide. Write your answer in simplest form.

19. $\dfrac{h+1}{10+x} \div$ **h + 1**

Instructions: Rearrange the equation to get k by itself.

20. $\dfrac{j+3}{2k} =$ **14**

<u>Answer Key</u>

1. **5j – (j – 2k) +36 +5k   Rewrite as: 4j+ 7k +36**

Instructions: Solve the Quadratic Equation

2. $r^2 + 3r = 0$, **r=0, r=-3**

Instructions: Find the missing value to make the polynomials a perfect-square quadratic.

3. $f^2 - 10f +$ **25**

Instructions: Write an equation to describe the sequence below. Use n to represent the position of a term in the sequence, where n = 1 for the first term.

4. **7, 28, 112, …..**

    Write your answer using decimals and integers.

    $a_n =\boxed{}$ $(\boxed{})^{n-1}$, **7(4)$^{n-1}$**

Instructions: Subtract

5. **(4x^2 + 3x -8) – (7x^2 – x + 8)= -3x^2+4x-16**

    Instructions: Find the product and simplify.

6. **(a^3 – 3a + 6) (a^2 + a)= a^5+a^4-3a^3+3a^2+6a**

Instructions: Simplify the rational expressions by rewriting them.

7. $\dfrac{d^2 + 2d + 1}{d^2 - 1} = \dfrac{d+1}{d-1}$

Instructions: Compute and simplify.

8. $\dfrac{4y^2}{5} + \dfrac{3y}{2} = \dfrac{8y^2 + 15y}{10}$

Instructions: Find the equation that gives the rule for this table.

9.

f(x)=7x-4

x	f(x)
4	24
7	45
9	59

Instructions: Find the missing value to make the polynomial a perfect-square quadratic.

10. $G^2 - 42G + 441$

Instructions: Solve the quadratic equation.

11. $x^2 - 3x - 18 = 0$, x=6, x=-3

Instructions: Solve using elimination.

12. **-6x + 2y = 7   y=1, x= -5/6**
     6x + 6y = 1

Instructions: Complete the problem by solving for the variable that is undefined.

13. $\sqrt{v} = \frac{2}{3}$, **v= 4/9**

Instructions: Find the value of the discriminant.

14. $5z^2 - 2 + 1 = 0$, **the discriminant is 4**

Instructions: Solve using augmented matrices.

15. **m − p = 2   m=3**
     p = 1   p=1

16. **Graph the following equation.**

     f(x) = 2x + 2

f(x)=2x+2
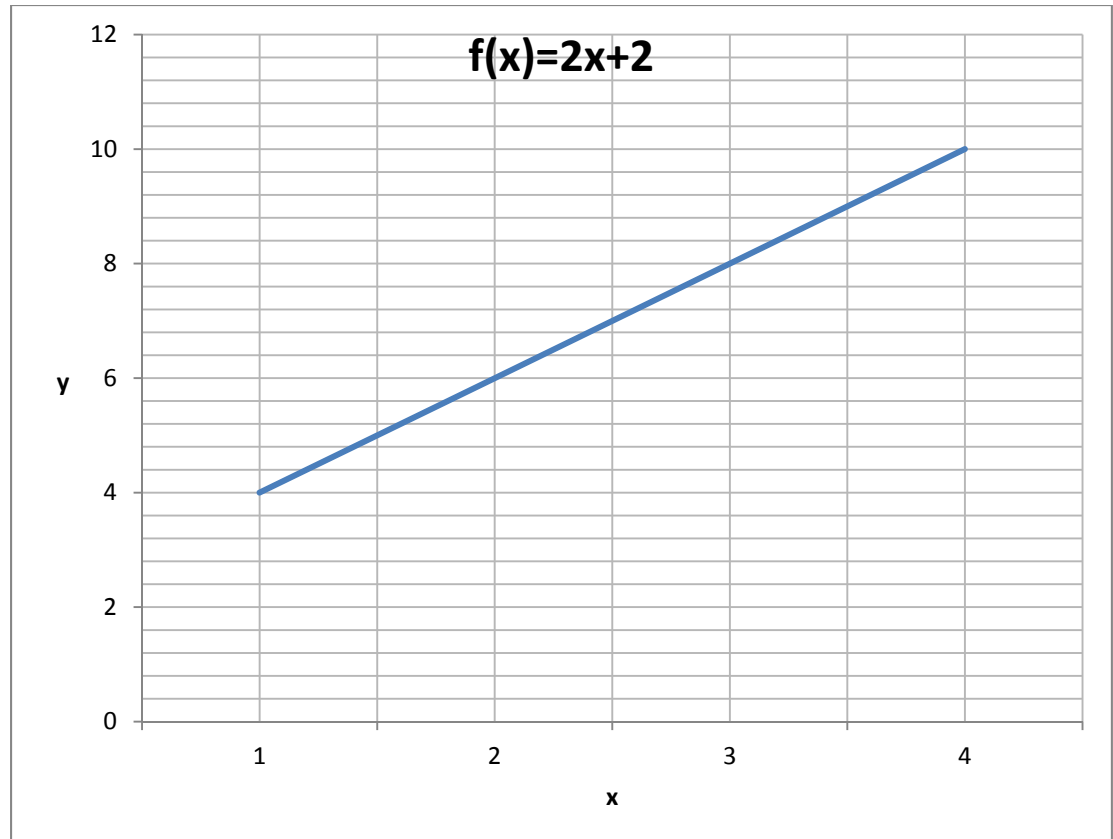
Instructions: Find the value of t for the following problem.

17. (t + 14) (t -5) = 0, t=-14, t=5

Instructions: Evaluate.

18. $(6b-7) (2b+3) = 12b^2+4b-21$

Instructions: Divide. Write your answer in simplest form.

19. $\frac{h+1}{10+x} \div h + 1 =$ $\frac{1}{10+x}$

Instructions: Rearrange the equation to get k by itself.

20. $\frac{j+3}{2k} = 14$, k= $\frac{j+3}{28}$