



Mr. Gary Pinkerton (gpinkerton@bdcs.org)

Name: _____

**Geometry
Summer Math Study Guide**

After you have practiced the skills on Khan Academy (list available on bdcs.org/read), complete the following study guide. Be sure to show all work and describe your reasoning, as this study guide should be a resource for you at the beginning of the school year. If you have any questions, be sure to contact me at gpinkerton@bdcs.org. I will reply within 48 hours Monday-Friday.

One-Step Addition & Subtraction Equations: Fractions & Decimals

Solve.

1. $\frac{1}{3} + a = \frac{5}{4}$

2. $0.15 = y - .45$

One-Step Multiplication & Division Equations: Fractions & Decimals

Solve.

3. $4.5 = \frac{j}{3}$

4. $0.3n = 0.9$

Two-Step Equations

Solve.

5. $2 = \frac{m}{2} - 7$

6. $-4(w + 1) = -24$

Equations with Variables on Both Sides

Solve.

7. $7b - 15 = 5b - 3$

8. $17 - r = -3r + 6r + 1$

Equations with Parentheses

Solve.

9. $8(10 - k) = 2k$

10. $3(6 - f) - 4 = 3f - 4$

Solving Proportions

Solve.

11. $\frac{11}{n} = \frac{8}{5}$

12. $\frac{k}{6} = \frac{4}{3}$

Factoring Quadratics Intro

Factor as the product of two binomials.

13. $x^2 - 9x + 18$

14. $x^2 - x - 42$

Multiply Binomials Intro

Expand. Your answer should be a polynomial in standard form.

15. $(x + 5)(x + 3)$

16. $(x - 2)(x - 1)$

Simplify Square Roots

Simplify.

17. $\sqrt{18}$

18. $\sqrt{48}$

Parallel & Perpendicular Lines from Equation

Find the slope and y-intercept of a line with the information given below.

19. Perpendicular to $y = -\frac{1}{3}x + 5$
and through $(-3, -7)$

20. Parallel to $y = -\frac{2}{3}x + 5$
and through $(5, -6)$

Answer Key

1. $a = \frac{11}{12}$

2. $y = 0.6$

3. $j = 13.5$

4. $n = 3$

5. $m = 18$

6. $w = 5$

7. $b = 6$

8. $r = 4$

9. $k = 8$

10. $f = 3$

11. $n = \frac{55}{8}$

12. $k = 8$

13. $(x - 6)(x - 3)$

14. $(x - 7)(x + 6)$

15. $x^2 + 8x + 15$

16. $x^2 - 3x + 2$

17. $3\sqrt{2}$

18. $4\sqrt{3}$

19. $m = 3$ and $b = 2$

20. $m = -\frac{2}{3}$ and $b = -\frac{8}{3}$