


# SUMMER MATH PACKET FOR STUDENTS RISING TO GEOMETRY

Provided by Cox Math Tutoring

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Directions: Complete the following problems without the use of a calculator, unless the problem is accompanied

by a calculator icon: .

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## 1. Solve the following linear equations.

1.1.  $-12 = 3 - 2k - 3k$

$$24 = 6(-x - 3)$$

1.2.  $6 = -3(x + 2)$

$$12(2k + 11) = 12(2k + 12)$$

1.3.  $-16 + 5n = -7(-6 + 8n) + 3$

$$-12(x - 12) = -9(1 + 7x)$$

1.4.  $-10n + 3(8 + 8n) = -6(n - 4)$

$$-11 + 10(p + 10) = 4 - 5(2p + 11)$$

## 2. Find the slope-intercept equation of the line:

2.1.  $3x - 2y = 16$

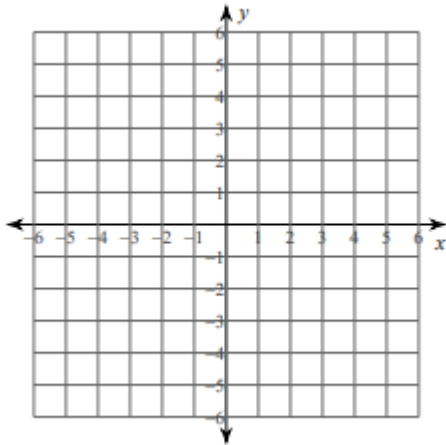
2.2. through (1, 2); slope = 7

2.3. through (4, 2); parallel to the line  $y = -\frac{3}{4}x - 5$

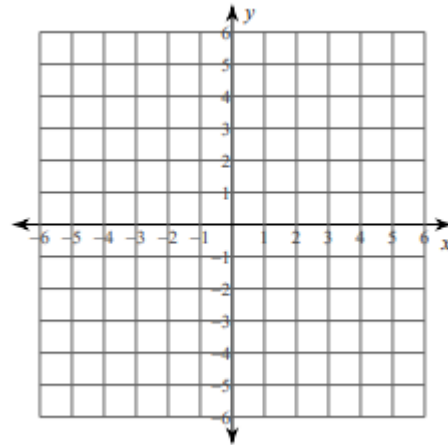
2.4. through (20, 8) and (9, 16)

**3. Sketch the graph of each line.**

3.1.  $6x + 5y = 20$



$10x - 3y = 15$



**4. Solve the following proportions.**

4.1.  $\frac{4}{n+2} = \frac{7}{n}$

4.2.  $\frac{n}{n-3} = \frac{2}{3}$

4.3.  $\frac{x-3}{x} = \frac{9}{10}$

4.4.  $\frac{5}{r-9} = \frac{8}{r+5}$

**5. Multiply.**

5.1.  $-4x(x^2 - 5x + 7)$

5.2.  $(y - 7)(y - 4)$

5.3.  $(x - 4)^2$

5.4.  $(5x + 2)^2$

**6. Factor completely**

6.1.  $4k^2 + 20k - 96$

6.2.  $6n^2 + 42n - 48$

6.3.  $6x^2 - 45x + 21$

6.4.  $4x^2 - 1$

6.5.  $9x^2 - 25$

6.6.  $b^2 - 19b + 90$

6.7.  $x^2 + 13x + 30$

**7. Use the zero product property to solve each equation.**

7.1.  $(x - 4)(x - 3) = 0$

7.2.  $x(x + 13) = 0$

**8. Solve each quadratic equation by factoring.**

8.1.  $x^2 + 2x - 15 = 0$

8.2.  $x^2 - 5x - 6 = 0$

**9. Solve using square roots.**

9.1.  $x^2 = 64$

9.2.  $(x - 2)^2 = 900$

**10. Name the angle relationship: complementary, supplementary, vertical, or adjacent.**



10.1. \_\_\_\_\_



10.2. \_\_\_\_\_



10.3. \_\_\_\_\_



10.4. \_\_\_\_\_