Geometry Acc Summer Packet Name_____

Date_____

This summer packet must be printed out and completed by the first day of school.
Please show all of your work and circle your answer choices.
There will be a test on this packet at the end of the first week.

Solve each proportion.

1) $\frac{2}{6} = \frac{a}{9}$

A) $\{1.3\}$ B) $\{2.52\}$
C) $\{2.8\}$ D) $\{3\}$

2) $\frac{k}{6} = \frac{5}{2}$

A) $\{15\}$ B) $\{2\}$
C) $\{1\}$ D) $\{9.7\}$

3) $\frac{k}{10} = \frac{5k-3}{5}$

A) $\left\{1\frac{1}{5}\right\}$ B) $\left\{-\frac{21}{4}\right\}$
C) $\left\{-\frac{3}{2}\right\}$ D) $\left\{\frac{2}{3}\right\}$

4) $\frac{2a-9}{a} = \frac{4}{3}$

A) $\left\{-\frac{19}{5}\right\}$ B) $\left\{5\frac{4}{9}\right\}$
C) $\left\{\frac{27}{2}\right\}$ D) $\{9\}$

Solve each equation.

5) $-14 = 3m - m$

A) $\{-15\}$ B) $\{-3\}$
C) $\{13\}$ D) $\{-7\}$

6) $-16 = -2r - 2r$

A) { All real numbers. }
B) $\{14\}$
C) $\{13\}$
D) $\{4\}$

7) $\frac{14}{9}a = \frac{14}{3}$

A) $\left\{\frac{28}{9}\right\}$ B) $\{3\}$
C) $\left\{\frac{56}{9}\right\}$ D) $\left\{\frac{3}{5}\right\}$

8) $x + \frac{5}{2} = \frac{5}{2}$

A) $\{5\}$ B) $\left\{\frac{25}{4}\right\}$
C) $\{0\}$ D) $\{1\}$

9) $-3(4 - 3x) = 3x - 36$

A) $\{-15\}$ B) $\{-4\}$
C) $\{-16\}$ D) $\{2\}$

10) $9 + 8n = 3(2n + 7)$

A) $\{-7\}$ B) $\{-5\}$
C) $\{6\}$ D) $\{1\}$

11) $-10(1-8x) = 7(12x-6)$

A) $\{-22\}$
B) $\{11\}$
C) $\{8\}$
D) { All real numbers. }

12) $-2(m-12) = -6+3(m-5)$

A) $\{10\}$ B) $\{5\}$
C) $\{-7\}$ D) $\{9\}$

13) $-\frac{11}{4} = -\frac{8}{5}x + 1 - 1\frac{3}{4}$

A) $\left\{\frac{5}{4}\right\}$ B) $\left\{\frac{3}{4}\right\}$
C) $\left\{5\frac{8}{9}\right\}$ D) $\left\{2\frac{2}{3}\right\}$

14) $\frac{1}{3}b - \frac{3}{2}b = \frac{35}{12}$

A) $\{-2\}$
B) $\left\{-\frac{5}{2}\right\}$
C) $\{-6\}$
D) { All real numbers. }

Solve each equation for the indicated variable.

15) $g = y - xc$, for x

A) $x = -cg + cy$ B) $x = \frac{-g+y}{c}$
C) $x = cg + cy$ D) $x = \frac{c}{g-y}$

16) $\frac{c}{a} = d - r$, for a

A) $a = \frac{-d+r}{c}$ B) $a = \frac{d-r}{c}$
C) $a = -\frac{c}{-d-r}$ D) $a = \frac{c}{d-r}$

17) $\frac{m}{x} = n - p$, for x

A) $x = -m + n - p$
B) $x = \frac{n-p}{m}$
C) $x = \frac{m}{n-p}$
D) $x = m - n - p$

18) $z = am + b$, for a

A) $a = \frac{-z-b}{m}$
B) $a = \frac{z-b}{m}$
C) $a = -z - b + m$
D) $a = \frac{-z+b}{m}$

19) $z = \frac{xy}{m}$, for x

A) $x = -\frac{y}{zm}$

B) $x = \frac{zm}{y}$

C) $x = zm + y$

D) $x = -\frac{zm}{y}$

20) $g = y - \frac{c}{x}$, for x

A) $x = -\frac{c}{-g + y}$

B) $x = \frac{c}{-g + y}$

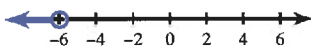
C) $x = cg - cy$

D) $x = \frac{g - y}{c}$

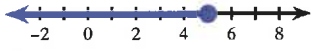
Solve each inequality and graph its solution.

21) $-4 + 8(8 - 5b) \le 300$

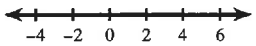
A) $b \le -6$:



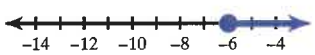
B) $b \le 5$:



C) No solution. :

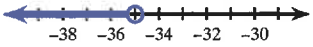


D) $b \ge -6$:

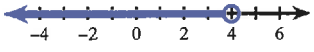


22) $-256 > 8(-6b - 8)$

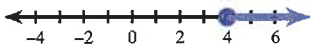
A) $b < -35$:



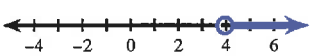
B) $b < 4$:



C) $b > 4$:

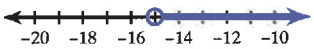


D) $b > 4$:

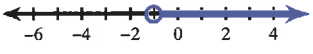


23) $7x - 29 < -6(-x + 5)$

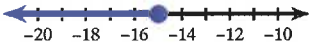
A) $x > -15$:



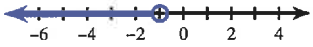
B) $x > -1$:



C) $x > -15$:



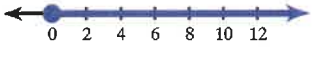
D) $x < -1$:



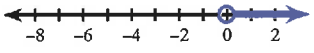
24) $-2 - 6(1 - 5n) > 3n - 8$

A) { All real numbers. } :

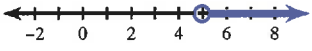
B) $n < 0$:



C) $n > 0$:



D) $n > 5$:



Solve each compound inequality.

25) $-25 \le 7k + 3 < 10$

A) $k > -4$

B) $-4 < k \le 4$

C) $-4 \le k < 1$

D) $k < 1$

26) $-2 < -2 - 9k < 43$

A) $4 \le k \le 9$

B) $-5 < k < 2$

C) $k < 2$

D) $-5 < k < 0$

Simplify.

27) $\sqrt{54}$

A) $6\sqrt{6}$ B) $5\sqrt{2}$
C) $3\sqrt{6}$ D) $6\sqrt{3}$

28) $\sqrt{75}$

A) $4\sqrt{6}$ B) $4\sqrt{3}$
C) $5\sqrt{3}$ D) $6\sqrt{6}$

29) $\sqrt{30}$

A) $6\sqrt{6}$ B) $\sqrt{30}$
C) $3\sqrt{2}$ D) 4

30) $\sqrt{12}$

A) $4\sqrt{3}$ B) $\sqrt{30}$
C) $3\sqrt{2}$ D) $2\sqrt{3}$

31) $-3\sqrt{36}$

A) -18 B) $-6\sqrt{2}$
C) $4\sqrt{3}$ D) $-3\sqrt{30}$

32) $-3\sqrt{45}$

A) $-9\sqrt{5}$ B) $20\sqrt{2}$
C) $-2\sqrt{5}$ D) $9\sqrt{5}$

33) $5\sqrt{15} \cdot \sqrt{15}$

A) 75 B) 225
C) 15 D) $\sqrt{30}$

34) $5\sqrt{3} \cdot \sqrt{12}$

A) 30 B) $\sqrt{15}$
C) 6 D) 36

35) $5\sqrt{3} \cdot \sqrt{6}$

A) $15\sqrt{2}$ B) 3
C) $3\sqrt{2}$ D) 18

36) $\dfrac{\sqrt{5}}{\sqrt{2}}$

A) $\dfrac{2\sqrt{3}}{3}$ B) $\dfrac{\sqrt{10}}{2}$
C) $\dfrac{\sqrt{6}}{6}$ D) $\dfrac{\sqrt{15}}{2}$

37) $\dfrac{\sqrt{5}}{5\sqrt{3}}$

A) $\dfrac{\sqrt{15}}{15}$ B) $\dfrac{\sqrt{6}}{3}$
C) $\dfrac{3\sqrt{10}}{4}$ D) $-\dfrac{\sqrt{2}}{10}$

38) $-\dfrac{3}{2\sqrt{2}}$

A) $-\dfrac{3\sqrt{2}}{4}$ B) $\dfrac{2\sqrt{3}}{3}$
C) $\dfrac{\sqrt{6}}{10}$ D) $\dfrac{2\sqrt{15}}{3}$

39) $3\sqrt{6} - 3\sqrt{6}$

A) $3\sqrt{6}$ B) 0
C) $-3\sqrt{6}$ D) $6\sqrt{6}$

40) $2\sqrt{8} - \sqrt{18}$

A) $2\sqrt{2}$ B) $6\sqrt{2}$
C) $\sqrt{2}$ D) $-2\sqrt{2}$

Solve each quadratic equation by taking square roots.

41) $x^2 = 64$

A) $\{8, -8\}$ B) $\{10\}$
C) $\{10, -10\}$ D) $\{100, -100\}$

42) $n^2 = 81$

A) $\{9\}$
B) $\{9, -9\}$
C) $\{2\sqrt{15}, -2\sqrt{15}\}$
D) $\{\sqrt{67}, -\sqrt{67}\}$

43) $-10b^2 = -440$

A) No solution.
B) $\{44, -44\}$
C) $\{-16, 16\}$
D) $\{2\sqrt{11}, -2\sqrt{11}\}$

44) $-10a^2 = -800$

A) $\{4\sqrt{5}, -4\sqrt{5}\}$
B) $\{2\sqrt{6}\}$
C) $\{2\sqrt{6}, -2\sqrt{6}\}$
D) $\{\sqrt{67}, -\sqrt{67}\}$

Solve each equation by factoring.

45) $(2x - 5)(x + 8) = 0$

A) $\left\{\frac{5}{2}, -8\right\}$ B) $\{-3, 8\}$
C) $\left\{-4, -\frac{1}{4}\right\}$ D) $\left\{\frac{1}{7}, 6\right\}$

46) $(8x - 1)(x + 3) = 0$

A) $\left\{-4, \frac{2}{5}\right\}$ B) $\{-1, -3\}$
C) $\left\{\frac{1}{8}, -3\right\}$ D) $\left\{-\frac{7}{5}, 0\right\}$

47) $m^2 - 7m + 6 = 0$

A) $\{-2, 8\}$ B) $\{1, 6\}$
C) $\{-6\}$ D) $\{1, 2\}$

48) $x^2 + x - 6 = 0$

A) $\{2, -3\}$ B) $\{-4, -1\}$
C) $\{5\}$ D) $\{-5, 8\}$

49) $15r^2 - 2r - 1 = 0$

A) $\left\{\frac{2}{3}, 3\right\}$ B) $\left\{\frac{1}{3}, -\frac{1}{5}\right\}$
C) $\left\{-\frac{1}{3}, \frac{1}{5}\right\}$ D) $\left\{\frac{1}{2}, -\frac{4}{5}\right\}$

50) $3r^2 + 7r + 4 = 0$

A) $\left\{\frac{4}{3}, -5\right\}$ B) $\left\{-\frac{4}{3}, -1\right\}$
C) $\left\{-\frac{3}{5}, 1\right\}$ D) $\left\{\frac{5}{2}, -5\right\}$

Solve each equation with the quadratic formula.

51) $x^2 - 2x - 8 = 0$

A) No solution.

B) $\left\{\frac{3+\sqrt{57}}{8}, \frac{3-\sqrt{57}}{8}\right\}$

C) $\{1+\sqrt{3}, 1-\sqrt{3}\}$

D) $\{4, -2\}$

52) $2b^2 - 2b - 7 = 0$

A) $\left\{\frac{2+3\sqrt{2}}{4}, \frac{2-3\sqrt{2}}{4}\right\}$

B) No solution.

C) $\left\{\frac{1+\sqrt{15}}{2}, \frac{1-\sqrt{15}}{2}\right\}$

D) $\left\{\frac{-1+\sqrt{15}}{2}, \frac{-1-\sqrt{15}}{2}\right\}$

Find the slope of a line parallel to each given line.

53) $10x + y = 5$

A) $\frac{1}{10}$ B) -10

C) 10 D) $-\frac{1}{10}$

54) $2x + 3y = 0$

A) $\frac{2}{3}$ B) $-\frac{2}{3}$

C) $\frac{3}{2}$ D) $-\frac{3}{2}$

Find the slope of a line perpendicular to each given line.

55) $y = -\frac{1}{2}x + 2$

A) 2 B) $-\frac{1}{2}$

C) $\frac{1}{2}$ D) -2

56) $y = -\frac{3}{2}x + 5$

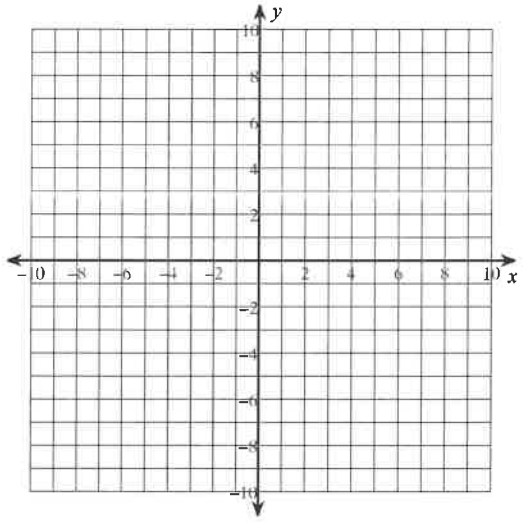
A) $-\frac{3}{2}$ B) $\frac{2}{3}$

C) $-\frac{2}{3}$ D) $\frac{3}{2}$

Solve each system by graphing.

57) $y = \frac{1}{2}x - 8$

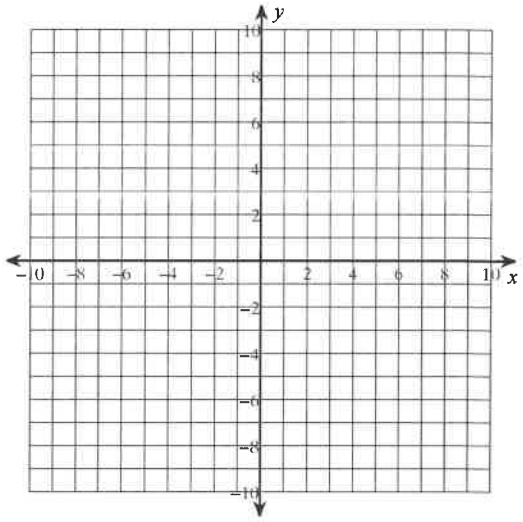
$y = 6x + 3$



A) $(9, 2)$ B) $(9, -2)$
C) $(1, 9)$ D) $(-2, -9)$

58) $y = -\frac{12}{5}x + 7$

$y = -5$



A) $(-5, 5)$ B) $(5, 5)$
C) $(5, -5)$ D) No solution

Solve each system by substitution.

59) $-4x - 2y = 8$

$y = -6x$

A) $(-6, -1)$ B) $(6, -1)$
C) $(1, -6)$ D) $(6, 1)$

60) $-7x - 6y = -5$

$y = -4x + 15$

A) $(-5, 5)$
B) Infinite number of solutions
C) $(5, -5)$
D) $(-5, -5)$

Solve each system by elimination.

61) $-3x - y = -15$

$-7x + y = -25$

A) No solution B) $(4, 3)$
C) $(4, 4)$ D) $(6, -4)$

62) $-5x - y = 28$

$5x - 4y = 12$

A) $(-4, 8)$ B) $(4, 8)$
C) $(-8, 8)$ D) $(-4, -8)$

63) $x - 3y = -2$

$-10x + 2y = -8$

A) $(2, 1)$
B) $(1, 1)$
C) Infinite number of solutions
D) $(-1, 1)$

64) $-8x + y = 24$

$-5x + 5y = -20$

A) $(2, 4)$ B) $(-8, -4)$
C) $(-4, -8)$ D) $(-2, -4)$

Write each as an algebraic expression.

65) n less than 18

A) $18 + n$ B) $n - 18$

C) 18^3 D) $18 - n$

66) the sum of 7 and t

A) $7 + t$ B) $t - 7$

C) $t^3 \geq 42$ D) $\frac{t}{7}$

67) the quotient of n and 3

A) $\frac{3}{n}$ B) $\frac{3}{n} \geq 12$

C) $n \cdot 3$ D) $\frac{n}{3}$

68) 18 decreased by w

A) $w - 18$ B) $2w$

C) w^2 D) $18 - w$

69) 11 less than n is 43

A) $\frac{11}{n} = 43$ B) $n - 11 = 43$

C) $\frac{11}{n} \geq 43$ D) $\frac{11}{2} = 43$

70) n squared is equal to 22

A) $n - 2 = 22$ B) $2^2 \geq 22$

C) $2^2 = 22$ D) $n^2 = 22$