KING SCHOOL

Summer Assignment

MAT 205: Geometry

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The Geometry 205 Summer Assignment has two parts.

Part 1 consists of math problems. Read directions carefully. Show your work neatly in the space provided and circle your answers for #1-60. If you need more space, you may use additional sheets of paper. Write your answers on the answer sheet as well.

Part 2 is a Geometry Crossword Puzzle. You may use books or the internet to look up definitions of terms you may not know.

We look forward to seeing you in geometry class!

Show your work to evaluate each expression.

1) $-5.9 - 2.02$

2) $3.52 + -5.3$

3) $8 - \frac{5}{3}$

4) $\left(-\frac{2}{3}\right) - \left(-\frac{2}{5}\right)$

Show the steps for long division to find each quotient.

5) $\frac{9.3}{6}$

6) $\frac{2}{0.8}$

Show the steps for multiplication to find each product. Fractions should be reduced to lowest terms.

7) $-670 \cdot 0.02$

8) $(-9)\left(-\frac{4}{3}\right)$

9) $\left(1\frac{1}{7}\right)\left(-\frac{3}{10}\right)$

Use rules of fractions to find each quotient. Answers should be reduced to lowest terms.

10) $\frac{-5}{4} \div \frac{15}{8}$

11) $\frac{7}{4} \div 2$

Round each to the place indicated.

12) 3.33778; hundredths

13) 1.73; tenths

14) 443.2; ones

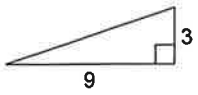
Use rules for order of operations to evaluate each expression.

15) $\left(1\frac{1}{6}-\frac{1}{2}\right)\div 3\frac{3}{4}$

16) $2\frac{1}{6}-\frac{1}{3}\times 2\frac{1}{2}$

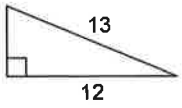
Use the Pythagorean Theorem to find each missing length. Round your answer to the nearest tenth.

17)



A) 9.5 B) 9.8
C) 90.3 D) 12

18)



A) 25 B) 1
C) 2 D) 5

Solve each equation. Show your steps in an organized manner.

19) $7(x + 2) = 126$

A) $\{16\}$ B) $\{-5\}$
C) $\{-18\}$ D) $\{1\}$

20) $19 = 5x - 6$

A) $\{13\}$ B) $\{-13\}$
C) $\{5\}$ D) $\{-4\}$

21) $1 = -3 + \frac{p}{2}$

A) $\{-19\}$ B) $\{-16\}$
C) $\{8\}$ D) $\{-20\}$

22) $\frac{-9 + k}{22} = -1$

A) $\{-13\}$ B) $\{16\}$
C) $\{-17\}$ D) $\{19\}$

23) $7n - 5(5 + 8n) = -4n + 4$

A) $\{13\}$ B) $\{14\}$
C) $\{-3\}$ D) $\{-1\}$

24) $-2(b - 3) = -2b$

A) $\{0\}$ B) $\{5\}$
C) No solution. D) $\{-3\}$

Solve each proportion. Show your work.

25) $\frac{12}{6} = \frac{n}{12}$

A) {2} B) {24}

C) {6} D) $\{\frac{1}{2}\}$

26) $\frac{k}{12} = \frac{4}{3}$

A) $\{\frac{40}{9}\}$ B) $\{\frac{37}{9}\}$

C) {16} D) $\{\frac{5}{12}\}$

27) $\frac{11}{3} = \frac{v+2}{v}$

A) $\{-7\}$ B) $\{-1\}$

C) $\{\frac{1}{6}\}$ D) $\{\frac{3}{4}\}$

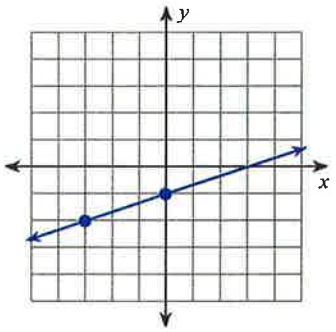
28) $\frac{2}{n} = \frac{3}{n-8}$

A) $\{-\frac{3}{2}\}$ B) {−2}

C) {−16} D) {1}

Find the slope of each line.

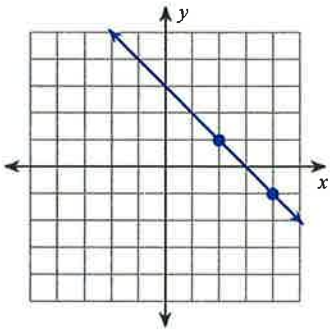
29)



A) $\frac{1}{3}$ B) $-\frac{1}{3}$

C) -3 D) 3

30)



A) 1 B) 2

C) -2 D) -1

Use the slope formula to find the slope of the line through each pair of points. Show your work.

31) $(5, 14), (3, 10)$

A) -2 B) 2

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

32) $(-9, -3), (6, -3)$

A) $-\frac{1}{5}$ B) $\frac{1}{5}$

C) Undefined D) 0

Write the slope-intercept form of the equation of the line through the given point with the given slope. Show your work.

33) through: $(-1, 0)$, slope $= -4$

A) $y = -4x - 4$ B) $y = -4x + 4$

C) $y = 4x - 4$ D) $y = x + 4$

34) through: $(-5, 2)$, slope = undefined

A) $y = 5x$ B) $y = -5x$

C) $x = -5$ D) $y = 5$

Write the slope-intercept form of the equation of the line through the given points. Show your work.

35) through: $(-1, -2)$ and $(0, 1)$

A) $y = 3x + 1$ B) $y = -2x + 1$
C) $y = -5x + 1$ D) $y = 2x + 1$

36) through: $(1, -1)$ and $(-3, -1)$

A) $x = 1$ B) $y = x$
C) $y = -1$ D) $y = -x$

Find each product. Show your work.

37) $(b + 3)(b - 4)$

A) $b^2 + b - 12$
B) $b^2 - 12b - 1$
C) $b^2 - 7b - 12$
D) $b^2 - b - 12$

38) $5n(n - 3)$

A) $8n^2 - 16n$ B) $4n - 6$
C) $5n^2 - 15n$ D) $6n^2 - 4n$

39) $(3n + 3)(3n + 3)$

A) $9n^2 - 9$
B) $5n^2 + 22n - 15$
C) $9n^2 + 18n + 9$
D) $9n^2 + 9$

40) $(2m - 1)(2m + 1)$

A) $4m^2 - 4m + 1$
B) $4m^2 - 1$
C) $4m^2 + 4m + 1$
D) $20m^2 - 21m - 5$

Factor the common factor out of each expression.

41) $15p + 12$

A) $3p(p + 4)$ B) $3(15p + 12)$
C) $p(5p + 4)$ D) $3(5p + 4)$

42) $4k - 8$

A) $4k(k - 2)$ B) $k(k - 2)$
C) $4(k - 2)$ D) $k(k - 10)$

Factor each completely.

43) $v^2 - 4v - 45$

A) $(v - 9)(v + 5)$
B) $(v - 10)(v + 2)$
C) $(v - 9)(v - 5)$
D) $(v + 9)(v + 5)$

44) $n^2 - 8n + 7$

A) $(n - 7)(n - 1)$
B) $n(n + 10)$
C) Not factorable
D) $(n - 7)(n + 1)$

Solve each equation by factoring and the zero product property.

45) $(x + 4)(x - 2) = 0$

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

46) $a^2 + 6a + 5 = 0$

A) $\{1, -7\}$ B) $\{-5, -1\}$
C) $\{7, 0\}$ D) $\{-5, -6\}$

47) $n^2 + 8n + 16 = 0$

A) $\{8, 2\}$ B) $\{-6, -1\}$
C) $\{-4\}$ D) $\{-1, 0\}$

Solve each equation by using the quadratic formula. Show your work.

48) $x^2 + 5x - 24 = 0$

A) $\{1, -6\}$ B) $\{8, -3\}$
C) $\{3, -8\}$ D) No solution.

49) $2x^2 - 9x - 5 = 0$

A) {3.851, 0.649}
B) {4, −2.5}
C) {5, −0.5}
D) {9.525, −0.525}

Solve each system using the elimination or linear combination method. Show your work.

50) $4x + 7y = -5$
$x + 4y = 1$

A) $(3, 1)$ B) $(-3, 1)$
C) $(3, -1)$ D) $(-2, -1)$

51) $-4x + 8y = -8$
$x - 2y = 2$

A) Infinite number of solutions
B) No solution
C) $(6, -2)$
D) $(6, -1)$

Solve each system by the substitution method. Show your work.

52) $-7x - 5y = 0$
$y = -x - 2$

A) $(-6, -5)$ B) $(5, -7)$
C) $(-5, 4)$ D) $(4, -5)$

53) $x + 2y = -2$
$3x + 7y = -7$

A) $(0, -1)$ B) $(-1, -1)$
C) $(1, 1)$ D) $(1, -1)$

Simplify. Show your work.

54) $\sqrt{50}$

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

55) $\sqrt{48}$

A) $2\sqrt{3}$ B) $7\sqrt{3}$
C) $4\sqrt{3}$ D) $3\sqrt{2}$

56) $\sqrt{45}$

A) $3\sqrt{2}$ B) $2\sqrt{2}$
C) $7\sqrt{7}$ D) $3\sqrt{5}$

57) $\sqrt{75}$

A) $4\sqrt{2}$ B) $5\sqrt{3}$
C) $2\sqrt{7}$ D) $14\sqrt{2}$

Evaluate each using the values given.

58) $m - 10 - (q^2 + p)$; use $m = 3$, $p = 4$, and $q = -4$

59) $-4(z - y) - (z - x)$; use $x = 5$, $y = 10$, and $z = 6$

60) Find the average of 27 and 45. Show your work.

Name _____

Geometry 201 Summer Assignment Answer Sheet

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Geometry Crossword Puzzle Clues

Across

1. equal in measure
2. lines that meet at a right angle
3. two rays with a common endpoint
4. on a coordinate plane, the graph of the line x=3 is _____

10. a math tool used for measuring or drawing angles
11. an angle that measures 90 degrees
12. part of a line that consists of one endpoint and all points on the line that extend in one direction
13. lines that do not intersect and are not in the same plane
14. an angle that measures between 0 and 90 degrees
16. on a coordinate plane, the graph of the line y=7 is _____
17. two angles whose sum is 180 degrees

Down

1. two angles whose sum is 90 degrees
3. two angles that share a common vertex and a common side, but have no common interior points
5. the point that two lines have in common
6. an angle that measures more than 90 degrees but less than 180 degrees
7. the point where the sides of an angle meet
8. an angle that measures 180 degrees
9. a point that divides a line segment into two congruent segments
10. lines in the same plane that do not intersect
15. part of a line that consists of two endpoints and all the points on the line between them

Geometry Crossword Puzzle

