Algebra 2 (chapter one revision)

Student's Name : ....

Write the letter for the correct answer in the blank at the right of each question.

For Questions 1–3, solve each equation or inequality.

1. $\frac{2}{5y} = \frac{3}{14}$

   A $\frac{28}{15}$ B $\frac{35}{3}$ C $\frac{3}{35}$ D $\frac{15}{28}$

   1._____

2. $3(5x-1) = 3x+3$

   F $\frac{1}{2}$ H 2   G –2   J $-\frac{1}{2}$

   2._____

3. $-3(r-11) + 15 \geq 9$

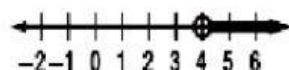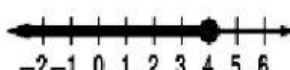   A $r \leq 13$ B $r \geq 13$ C $r \leq -13$ D $r \geq -13$

   3._____

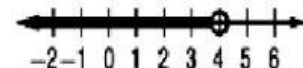4. Identify the graph of the solution set of $8.5 > 6.1 + 0.6y$.
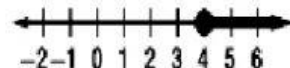

   4._____

5. Find the slope of the line that passes through $(2, 4)$ and $(-7, 8)$.

   A $-\frac{4}{9}$ B $-\frac{4}{5}$ C $\frac{5}{4}$ D $-\frac{9}{4}$

   5._____

6. What is the slope of a line that is parallel to the graph of $2x - 3y = 6$?

   F $\frac{3}{2}$ G $-\frac{2}{3}$ H $\frac{2}{3}$ J $-\frac{3}{2}$

   6._____

7. Write an equation in slope-intercept form for the line that has a slope of 3 and passes through $(-1, 2)$.

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

   7._____

8. Write an equation in slope intercept-form for the line that passes through $(0, -2)$ and is parallel to the line whose equation is $3x + 5y = 3$.

   F $y = -\frac{3}{5}x - 2$ G $y = 3x - 2$ H $y = \frac{3}{5}x + 2$ J $y = -3x + 2$

   8._____

9. The graph of the linear inequality $y \geq 3x - 1$ is the region ___?___ the graph of $y = 3x - 1$.

   A above   B below   C on or above   D on or below

   9._____

10. Which inequality describes the situation when Bob has at least 3 pets?

   F $p > 3$ G $p \geq 3$ H $3 > p$ J $p \leq 3$

   10._____

11. The system of equations $y = 2x - 3$ and $y = 4x - 3$ has

  A exactly one solution.   **C** infinitely many solutions.

  B no solution.   **D** exactly two solutions.

11. _____

Choose the correct description of each system of equations.

  F consistent and independent   **H** consistent and dependent

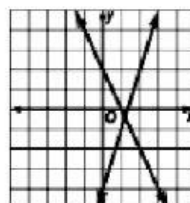 **G** inconsistent   **J** inconsistent and dependent

12. _____

12. $x + 2y = 7$

   $3x - 2y = 5$

13. $2x + 3y = 10$

   $4x + 6y = 20$

13. _____

14. Which system of equations is graphed?

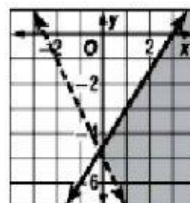 **A** $2x + y = 2$ **C** $2x + y = 2$

   $-3x - y = 4$ $3x - y = 4$

  B $2x + y = -2$ **D** $2x + y = -2$

   $3x - y = 4$ $-3x - y = 4$

14. _____

15. Which system of inequalities is graphed?

  F $2x + y \geq 5$ **H** $2x - y \leq 5$

   $3x + 2y \leq 9$ $3x + 2y < 9$

  G $2x + y > -5$ **J** $-2x + y > 5$

   $3x - 2y \geq 9$ $3x - 2y \leq 9$

15. _____

For Questions 16–18, use the system of inequalities $y \geq 1$, $y - x \leq 6$, and $x + 2y \leq 6$.

16. Find the coordinates of the vertices of the feasible region.

  A $(-6, 0), (-2, 4), (6, 0)$ **C** $(-5, 1), (-2, 4), (4, 1)$

  B $(0, 1), (0, 3), (4, 1)$ **D** $(-5, 1), (-2, 4), (0, 3), (0, 1)$

16. _____

17. Find the minimum value of $f(x, y) = 2x + y$ for the feasible region.

  F -10 **G** 0 **H** -9 **J** -4

17. _____

18. Find the maximum value of $f(x, y) = 2x + y$ for the feasible region.

  A 0 **B** 11 **C** 9 **D** 8

18. _____

A gas station sells low-grade (ℓ), mid-grade (m), and premium (p) gasoline. Mid-grade costs \$0.10 per gallon more than low-grade, and premium costs \$0.10 per gallon more than mid-grade Five gallons of low-grade gas cost \$18.

19. Which system of equations represents the cost of each type of gasoline?

  F $5\ell + m = 18, m = \ell + 0.10, p = m + 0.10$

  G $5\ell = 18, m = \ell - 0.10, p = m - 0.10$

  H $5\ell = 18, m = \ell + 0.10, p = m + 0.10$

  J $0.10\ell + 0.10m + 5p = 18, 0.10\ell + m = 0, 0.10m + p = 0$

19. _____

20. What is the cost of one gallon of premium gasoline?

  A \$3.60   **B** \$3.70   **C** \$3.80   **D** \$3.90

20. _____

Teacher

Abobakr El shafey