

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 $r \geq 13$

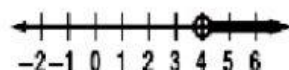
C $r \leq -13$

D $r \geq -13$

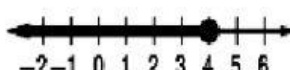
3. _____

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

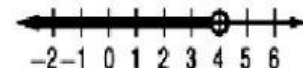
F



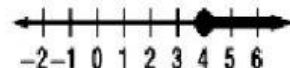
H



G



J



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

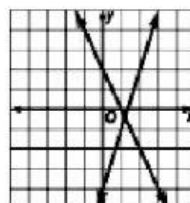
12. _____

12. $x + 2y = 7$ 13. $2x + 3y = 10$
 $3x - 2y = 5$ $4x + 6y = 20$

13. _____

14. Which system of equations is graphed?

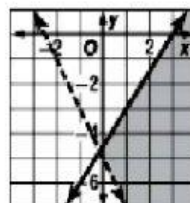
- A $2x + y = 2$ C $2x + y = 2$
 $-3x - y = 4$ $3x - y = 4$
 B $2x + y = -2$ D $2x + y = -2$
 $3x - y = 4$ $-3x - y = 4$



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. _____