1. Determine whether the given numbers are solutions of the inequality.

7,-11,-9,-3

y-8>2y-2

Is 7, -11,-19, or -3 a solution?

1. Write the set {x | x ≥ -3} in interval notation.

Choose the correct interval.

1. [-3, ∞)
2. (-∞, -3]
3. (-3, ∞)
4. (-∞, -3)
5. Write interval notation for set {x | -1 > x > -10}.

Choose the correct interval notation below.

1. [-10,-1)
2. (-10,-1]
3. [-10,-1]
4. (-10,-1)
5. Write interval notation for the given graph.

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Choose the correct interval.

A. (-4, 9)

B. (-9, 4)

C. {-4, 9}

D. [-4, 9]

1. Solve. Then graph.

t + 13 ≥ 8

The solution is {t | t ≥ \_\_}

Which of the following is the graph of the solution?

A. -7 -6 (-5 -4 -3

B. -7 -6 -5) -4 -3

C. -7 -6 -5] -4 -3

D. -7 -6 [-5 -4 -3

6. Solve.

-7/2 x ≥ -1/4

The solution set is {x|x\_\_}

7 Solve.

2x+2<6

The solution is {x|x\_\_}

8. Solve

0.4x + 7 ≥ 1.2x -6

The solution is {x | x \_\_}

9. Solve.

2/3 ( 3 x -6 ) > 12

Use set builder notation to describe the complete solution set.

{x | x \_\_}

10. The body mass index, I, can be used to determine an individual’s risk for heart disease. An index less than 25 indicates a low risk. The body mass index is given by the formula, or model, I=700W/H2, where W=weight, in pounds, and H = height, in inches. Francis weighs 187 pounds and stands 75 inches tall. What is his approximate body mass index? Find an inequality describing all weighs W that Francis can have and be in the low-risk category.

Francis’ approximate body mass index is \_\_ (round to the nearest whole number)

Find an inequality describing all weighs W that Francis can have and be in the low-risk category.

{ W|W< (approximately) \_\_ lb} (round down to the nearest whole pound)

11. Bayside Insurance offers two health plans. Under plan A, Giselle would have to pay the first $150 of her medical bills, plus 30% of the rest. Under plan B, Giselle would pay the first $210, but only 20% of the rest. For what amount of medical bills will plan B save Giselle money? Assume she has over $210 in bills.

Giselle would save with plan B if she had more than $\_ in bills. (round to the neatest whole number.)

12. Find the intersection.

{ 2, 4, 6, 9} ᴖ { 3, 5, 8 }

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

1. The intersection is {\_\_}.
2. The intersection in the empty set.

13. Graph and write the solution interval notation.

X < 8 and x ≥ -5

Choose the compound inequality.

1. -15 -10 -5 0 5 10 15
2. -15 -10 -5] 0 5 ( 10 15
3. -15 -10 [-5 0 5 ) 10 15

Write the solution interval notation. \_

14. Solve and graph.

-28 ≤ 4x + 4 and 4x + 4 < 28

The solution is {x|\_\_≤ x < \_\_}.

Choose the graph of the solution.

1. -10 ( -5 0 5 ) 10 15 20
2. -10 ( -5 0 5 10 15 20
3. -10 -5 0 5 ) 10 15 20
4. -10 [ -5 0 5 ) 10 15 20

15. Solve.

-6 < x + 5 < 11

The solution is {x |\_\_< x <\_\_}.

16. Solve.

-13 ≤ 3x -2 ≤ -1

The solution is { x |\_\_≤ x ≤\_\_}

17. Graph the compound inequality. Write the solution using interval notation.

x < -5 or x > 4

1. -6 ( -4 -2 0 2 4) 6
2. -6 ) -4 -2 0 2 (4 6
3. -6 -4 -2 0 2 4 6

Write the solution in interval notation.\_\_

18. Solve and graph the compound inequality.

x + 7 < -7 or x +7 > 3

The solution of the compound inequality is {x | x < \_\_ or x > \_\_ }.

Which of the following is the graph of the solution of the compound inequality?

1. -25 -20 -15 ] -10 -5 0
2. -25 -20 -15 ) -10 -5 ( 0
3. -25 -20 -15 ) -10 -5 0
4. -25 -20 -15 ] -10 -5 [ 0

19. Solve the compound inequality.

2x -1 2x -1 \_\_\_\_ ≤ -8 or \_\_\_\_ ≥4

4 4

The solution of the compound inequality is { x | x ≤\_\_or x ≥\_\_\_}.

20. In order to achieve maximum results from aerobic exercise, one should maintain one’s heart rate at a certain level. A 30yr old woman with a resting heart rate of 80 beats per minute should keep her heart rate between 146 and 168 beats per minute while exercising. She checks her pulse for 10 sec while exercising. What should the number of bears be?

The number of beats in 10 sec should be between \_\_ and \_\_ beats.

21. Determine whether the order pair is a solution of the inequality.

(-3, 9) ; 8x + y < -9

In this case, is the ordered pair a solution?

22. Graph the inequality on a plane,

Y > 3x

23. Graph the inequality on a plane.

3x + 4y ≤ 12

24. Graph the inequality on a plane.

6x -5 ≤ 11x + y

25. Match each graph with the appropriate inequality.

Which inequality matches Graph 1?

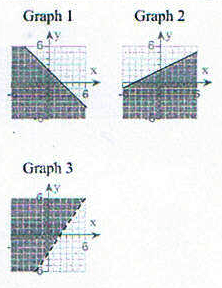
1. 2x ≥ 4y -8
2. y + x ≤ 2
3. 8y > 6 -2x
4. 3x -2y <6

Which inequality matches Graph 2?

1. 3x -2y <6
2. 2x ≥ 4y -8
3. 8y > 6 -2x
4. y + x ≤ 2

Which inequality matches Graph 3?

1. 8y > 6 -2x
2. y + x ≤ 2
3. 3x -2y <6
4. 2x ≥ 4y -8



26. match each graph with the appropriate inequality.

Which inequality matches Graph 1?

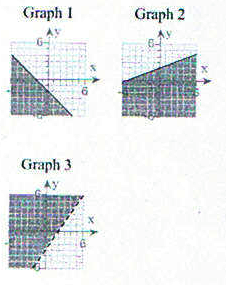
1. 10y > 6-2 x
2. 2x ≥5y-10
3. 3x-2y<6
4. y+x≤-2

Which inequality matches Graph 2?

1. 3x -2y <6
2. 2x ≥ 5y -10
3. y + x ≤ -2
4. 10y > 6 -2x

Which inequality matches Graph 3?

1. y + x ≤ -2
2. 3x -2y < 6
3. 2x ≥ 5y -10
4. 10y > 6 -2x



27. Graph the system of inequalities.

y ≥ -5

x ≥ 6

28 Graph the system of inequalities.

x + 2y ≤ 10

2x + y ≤ 10

x ≥ 0.

y ≥ 0.