

Student: _____
Date: _____
Time: _____

Instructor: Natasa Paunovska
Course: Precalculus (Demana, Waits,
Foley, Kennedy)
Book: Demana: Precalculus: Graphical,
Numerical, Algebraic, 8e

Assignment: Q1Q2 Review

1. Find which value(s) of x are solution(s) of the equation.

$$3x^2 + 14x = 5$$

(a) $x = -5$ (b) $x = -\frac{1}{3}$ (c) $x = \frac{1}{3}$

Select all values of x that are solutions of the equation.

A. $x = -5$

B. $x = -\frac{1}{3}$

C. $x = \frac{1}{3}$

2. Solve the equation.

$$-\frac{2}{6}x = \frac{6}{12}$$

$x =$ (Type an integer or a simplified fraction.)

3. Solve the equation.

$$3(5x - 1) - 2(3x - 4) = 8x + 20$$

$x =$

(Simplify your answer.)

4. Solve the equation. Support your answer with a calculator.

$$\frac{2x + 1}{3} + \frac{x - 1}{4} = \frac{13}{2}$$

$x =$

(Simplify your answer.)

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5. Solve for x . Graph the solution.

$$4x + 1 < 3x - 4$$

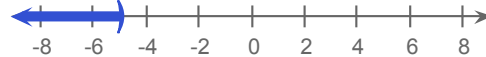
The solution is $x < \square$.

Choose the correct graph of the solution.

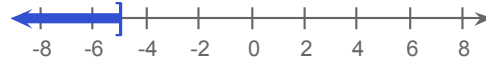
A.



B.



C.



D.



6. Solve and graph the inequality.

$$-1 \leq x + 3 < 9$$

What is the solution?

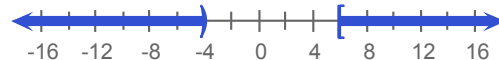
(Type an inequality or double inequality.)

Choose the correct graph below.

A.



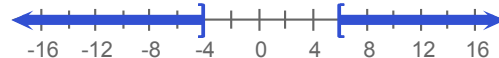
B.



C.



D.



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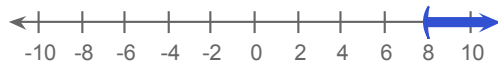
7. Solve and graph the inequality.

$$\frac{1}{3}(6y + 3) - 32 < -\frac{1}{4}(8y - 4)$$

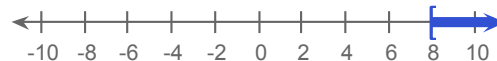
What is the solution?

(Type an inequality or double inequality.)

A.



B.



C.



D.



8. Solve the inequality.

$$\frac{1}{2}(x - 9) - 5x \geq 10(2 - x)$$

The solution is .

(Type an inequality. Use integers or fractions for any numbers in the expression.)

9. Find the slope of the line containing the pair of points (9,7) and (-10,2).

The slope of the line is . (Type an integer or simplified fraction.)

10. Find a point-slope equation of the line having the given slope and containing the given point.

$$m = -8, (-5, 8)$$

What is an equation of the line? In the equation below, type the slope and the coordinates of the point in the appropriate position.

$$y - \square = \square(x - (\square))$$

11. Write the general form of the equation of the line through this pair of points.

(2,4) and (-6,9)

The equation is = 0. (Simplify your answer.)

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12. Find a slope-intercept form equation for the line containing the given point and having the given slope.

$$(-3, 16), m = -4$$

The equation is $y = \square$.

13. Write the equation in slope-intercept form.

$$8x - 5y = 30$$

The equation converted to slope-intercept form is $y = \square$.

(Use integers or fractions for any numbers in the expression.)

14. Find the value of x and the value of y for which $(x, 18)$ and $(10, y)$ are points on the graph of the equation.

$$5x + 2y = 26$$

$$x = \square$$

$$y = \square$$

15. Write a slope-intercept equation for a line passing through the point $(14, 16)$ that is parallel to $y = \frac{1}{2}x + 7$. Then write a second equation for a line passing through the given point that is perpendicular to the given line.

Which answer below is correct?

A. parallel: $y = \frac{1}{2}x + 9$ perpendicular: $y = -2x + 44$

B. parallel: $y = \frac{1}{2}x + 16$ perpendicular: $y = -2x + 16$

C. parallel: $y = \frac{1}{2}x + 9$ perpendicular: $y = 2x + 44$

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16. Write a slope-intercept equation for a line passing through the given point that is parallel to the given line. Then write a second equation for a line passing through the given point that is perpendicular to the given line.

$$(7, -8); 7x + 3y = 4$$

The equation of the parallel line is $y = \square$.

(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the expression.)

The equation of the perpendicular line is $y = \square$.

(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any number in the expression.)

17. Solve the following equation symbolically and graphically.

$$x^2 + 8x + 15 = 0$$

$$x = \square$$

(Use a comma to separate answers as needed.)

18. Solve.

$$81x^2 = 4$$

$$x = \square$$

(Simplify your answer. Use a comma to separate answers as needed.)

19. Solve by completing the square.

$$x^2 + 3x = 10$$

The solutions are \square . (Use a comma to separate answers as needed.)

20. Solve the equation using the quadratic formula.

$$4k(k + 13) = 13$$

$$k = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

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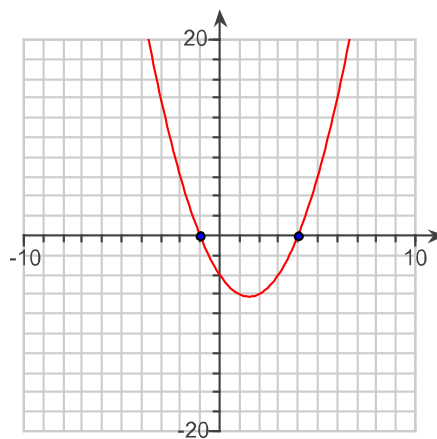
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21. Use the graph to solve the equation.

$$x^2 - 3x - 4 = 0$$

The solutions are .

(Use a comma to separate answers.)



22. Solve with a grapher.

$$x^3 - 10x^2 - 192x + 864 = 0$$

The solutions are .

(Use commas to separate your answers.)

23. Solve the equation graphically by finding intersections.

$$|2x + 8| = 6$$

$x =$

(Simplify your answer. Use a comma to separate answers as needed.)

24. Solve.

$$x^2 + 3x - 10 = 0$$

$x =$

(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

25. Solve.

$$|4x - 3| = 8$$

$x =$

(Simplify your answer. Use a comma to separate answers as needed.)

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1. _____ A, C

2. _____ $-\frac{3}{2}$

3. _____ 15

4. _____ 7

5. _____ -5
B

6. _____ $-4 \leq x < 6$
C

7. _____ $y < 8$
D

8. _____ $x \geq \frac{49}{11}$

9. _____ $\frac{5}{19}$

10. _____ 8
- 8
- 5

11. _____ $5x + 8y - 42$

12. _____ $-4x + 4$

13. _____ $\frac{8}{5}x - 6$

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14. -2
 -12

15. A

16. $-\frac{7}{3}x + \frac{25}{3}$
 $\frac{3}{7}x - 11$

17. $-5, -3$

18. $\frac{2}{9}, -\frac{2}{9}$

19. $-5, 2$

20. $\frac{-13 + \sqrt{182}}{2}, \frac{-13 - \sqrt{182}}{2}$

21. $-1, 4$

22. $-12, 4, 18$

23. $-1, -7$

24. $-5, 2$

25. $\frac{11}{4}, -\frac{5}{4}$