

Name _____

Algebra II Honors Summer Assignment

Show all work. All answers should be written in fraction form, if necessary, unless indicated otherwise.

Solve. Write your answers as fractions, if necessary.

1. $\frac{x+4}{5} = 2$

2. $4 - \frac{3}{5}x = 16$

3. $4(3x - 8) - 11x = 2$

1. _____

2. _____

3. _____

4. $1 - 2(3x - 4) = -6x - 9$

5. $\frac{x}{x-2} = \frac{5}{7}$

6. $10x - 4 \leq 20$

4. _____

5. _____

6. _____

Solve and graph your solutions.

7. $-3 \leq 2x + 5 < 11$

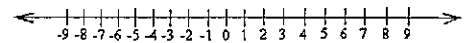
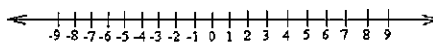
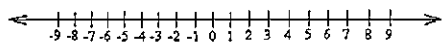
8. $-2x - 5 \geq -7$

9. $|x - 2| \geq 6$

7. _____

8. _____

9. _____



Find the slope of the line passing through the given points.

10. $(-10,-7)$ $(1,-2)$

11. $(8,-3)$ $(-3,-3)$

12. $(4,7)$ $(4,-2)$

10. _____

11. _____

12. _____

13. Find the values of a and b if the slope between the points $(3,a)$ and $(b,-6)$ is $-\frac{5}{6}$.

14. Find the value of a if the slope between $(4,5)$ and $(a,-2)$ is undefined.

15. Find the value of b if the slope between $(-1,-3)$ and $(6,b)$ is zero.

13. _____

14. _____

15. _____

16. Find the distance between $(2,8)$ and $(1,3)$. Leave your answer in simplified radical form.

17. Find the midpoint of the segment with endpoints $(8,2)$ and $(3,8)$.

18. The midpoint of a line segment is $(9,8)$. One of the endpoints of the line segment is $(10,10)$. Find the other endpoint.

16. _____

17. _____

18. _____

Find the x and y intercepts for each equation. Write the intercepts as ordered pairs.

19. $2x - 3y = 6$

20. $8x - y = 12$

21. $y = -8$

19. xint: _____

20. xint: _____

21. xint: _____

yint: _____

yint: _____

yint: _____

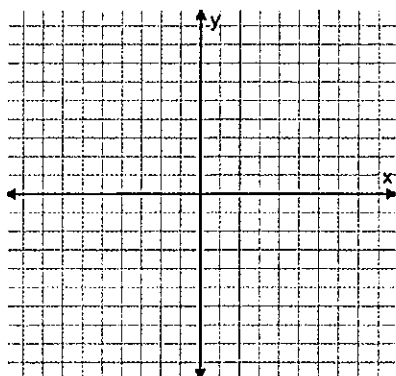
Graph each equation.

22. $y = 2x - 2$

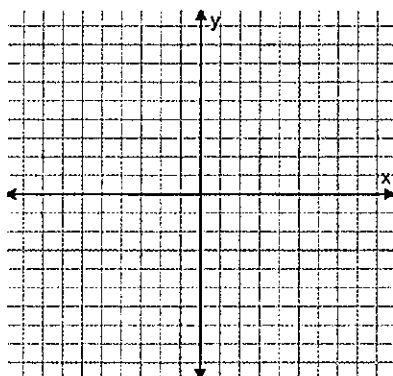
23. $x + 2y = 2$

24. $x = 4$

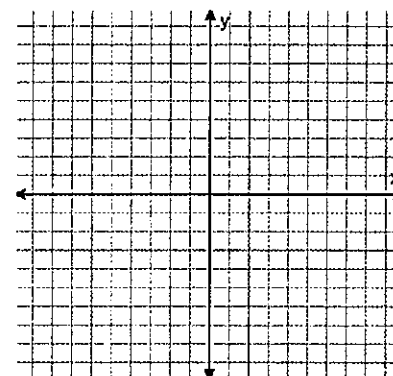
22.



23.



24.



Write the equation of each line (in slope-intercept form) with the following information.

25. $(-5,3)$ and $(4,-5)$ are on the line.

26. The line is parallel to $2x - y = 10$ as passes through the point $(1,1)$

27. The line is perpendicular to $x + 3y = 12$ and passes through the point $(-2,6)$.

25. _____

26. _____

27. _____

Solve the system (any method). Write your answer as an ordered pair.

28. $-3x + y = 15$
 $x + 2y = 2$

29. $2 = x - 2y$
 $-x + 8 = -y$

28. _____

29. _____

Solve the system by substitution. Write your answer as an ordered pair.

$$\begin{aligned} 30. \quad y &= 3x + 2 \\ y &= 6x + 4 \end{aligned}$$

30. _____

Perform the indicated operations.

31. $(2x^2 + 3x + 5) - (-x^2 + 4x - 7)$

32. $(3x + 3)^2$

31. _____

32. _____

Simplify.

33. $(2a^3b^{-4}c)^2$

34. $(3a^{-2}b^4c)(-4a^3bc^5)(2a^0bc)$

35. $2(3x^2 - 5x) - x(2x + 1)$

33. _____

34. _____

35. _____

Factor completely.

36. $16x^2 - 1$

37. $25x^2 + 30x + 9$

38. $18x^3 + 33x^2 - 6x$

36. _____

37. _____

38. _____

39. Solve by factoring.

$$10x^2 - 7x = 12$$

40. Solve by completing the square.

Write your answer in simplified radical form, if necessary.

$$2x^2 - 10x + 8 = 0$$

39. _____

40. _____

41. Solve using the quadratic formula. Write your answer in simplified radical form, if necessary.

$$x^2 + 10x = -4$$

42. Solve by factoring.

$$x^3 + 3x^2 - 4x - 12 = 0$$

41. _____

42. _____

Simplify. Write your answer in radical form.

43. $\sqrt{48}$

44. $\sqrt{6} \cdot \sqrt{12}$

45. $\sqrt{80}$

43. _____

44. _____

45. _____