

## Algebra II Honors Summer Assignment

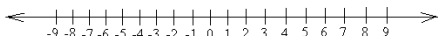
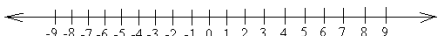
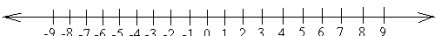
Show all work. All answers should be written in fraction form, if necessary, unless indicated otherwise.

Solve. Write your answers as fractions, if necessary.

<p>1. <math>\frac{x+4}{5} = 2</math></p> <p>1. _____</p>	<p>2. <math>4 - \frac{3}{5}x = 16</math></p> <p>2. _____</p>	<p>3. <math>4(3x - 8) - 11x = 2</math></p> <p>3. _____</p>
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<p>4. <math>1 - 2(3x - 4) = -6x - 9</math></p> <p>4. _____</p>	<p>5. <math>\frac{x}{x-2} = \frac{5}{7}</math></p> <p>5. _____</p>	<p>6. <math>10x - 4 \leq 20</math></p> <p>6. _____</p>
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Solve and graph your solutions.

<p>7. <math>-3 \leq 2x + 5 &lt; 11</math></p> <p>7. _____</p> 	<p>8. <math>-2x - 5 \geq -7</math></p> <p>8. _____</p> 	<p>9. <math> x - 2  \geq 6</math></p> <p>9. _____</p> 
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Find the slope of the line passing through the given points.

10. $(-10, -7)$ $(1, -2)$          10. _____	11. $(8, -3)$ $(-3, -3)$          11. _____	12. $(4, 7)$ $(4, -2)$          12. _____
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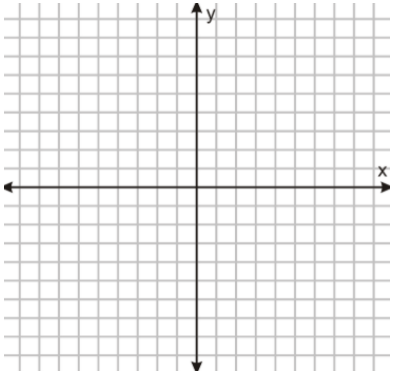
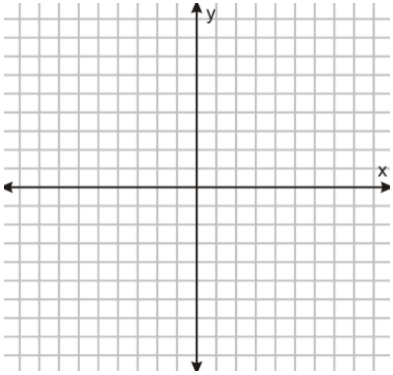
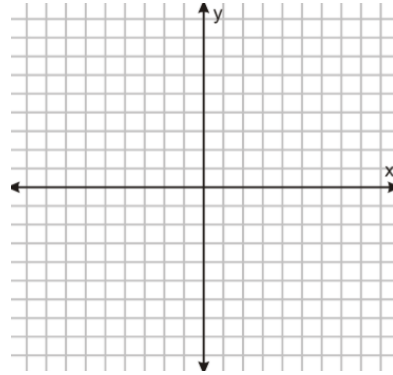
13. Find the value of $a$ if the slope between $(4, 5)$ and $(a, -2)$ is undefined.          13. _____	14. Find the value of $b$ if the slope between $(-1, -3)$ and $(6, b)$ is zero.          14. _____	15. Find the midpoint of the segment with endpoints $(8, 2)$ and $(3, 8)$ .          15. _____
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16. Find the distance between $(2, 8)$ and $(1, 3)$ . Leave your answer in simplified radical form.          16. _____	17. The midpoint of a line segment is $(9, 8)$ . One of the endpoints of the line segment is $(10, 10)$ . Find the other endpoint.          17. _____
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Find the x and y intercepts for each equation. Write the intercepts as ordered pairs.

<p>18. <math>2x - 3y = 6</math></p> <p>18. X-int: _____ Y- int: _____</p>	<p>19. <math>8x - y = 12</math></p> <p>19. X-int: _____ Y-int: _____</p>	<p>20. <math>y = -8</math></p> <p>20. X-int: _____ Y-int: _____</p>
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Graph each equation.

<p>21. <math>y = 2x - 2</math></p> <p>21. </p>	<p>22. <math>x + 2y = 2</math></p> <p>22. </p>	<p>23. <math>x = 4</math></p> <p>23. </p>
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Write the equation of each line (in slope-intercept form) with the following information.

<p>24. The points <math>(-5, 3)</math> and <math>(4, -5)</math> are on the line.</p> <p>24. _____</p>	<p>25. The line is parallel to <math>2x - y = 10</math> and passes through the point <math>(1, 1)</math>.</p> <p>25. _____</p>	<p>26. The line is perpendicular to <math>x + 3y = 12</math> and passes through the point <math>(-2, 6)</math>.</p> <p>26. _____</p>
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Solve the system (any method). Write your answer as an ordered pair.

<p>27. <math>-3x + y = 15</math> <math>x + 2y = 2</math></p> <p>27. _____</p>	<p>28. <math>2 = x - 2y</math> <math>-x + 8 = -y</math></p> <p>28. _____</p>
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Solve the system by substitution. Write your answer as an ordered pair.

$$\begin{aligned} 29. \quad y &= 3x + 2 \\ y &= 6x + 4 \end{aligned}$$

29. \_\_\_\_\_

Perform the indicated operations.

$$30. (2x^2 + 3x + 5) - (-x^2 + 4x - 7)$$

30. \_\_\_\_\_

$$31. (3x + 3)^2$$

31. \_\_\_\_\_

Simplify.

$$32. (2a^3b^{-4}c)^2$$

32. \_\_\_\_\_

$$33. (3a^{-2}b^4c)(-4a^3bc^5)(2a^0bc)$$

33. \_\_\_\_\_

$$34. 2(3x^2 - 5x) - x(2x + 1)$$

34. \_\_\_\_\_

Factor completely.

35.  $16x^2 - 1$

35. \_\_\_\_\_

36.  $25x^2 + 30x + 9$

36. \_\_\_\_\_

37.  $18x^3 + 33x^2 - 6x$

37. \_\_\_\_\_

38. Solve by factoring.

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

38. \_\_\_\_\_

39. Solve by completing the square. Write your answer in simplified radical form, if necessary.

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

39. \_\_\_\_\_

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

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

40. \_\_\_\_\_

41. Solve by factoring.

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

41. \_\_\_\_\_

Simplify. Write your answer in radical form.

42.  $\sqrt{48}$

42. \_\_\_\_\_

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

43. \_\_\_\_\_

44.  $\sqrt{80}$

44. \_\_\_\_\_

Upon successful completion of this packet, it is expected that you have answered these questions on your own, as you will be taking an in-person assessment on this material at the beginning of the school year.