Algebra II R

Summer Practice Problems

Purpose: To provide students with an opportunity to review the basic concepts and skills learned in previous years, so that they are better prepared to begin their work in Algebra IIR. These problems will not be collected, graded, or reviewed once school begins.

Simplify the following expressions

1) $3(x + \frac{6}{x})^2 - (6x + 4)$ when $x = -2$

2) $-3|2y - 6| - 3y$ when $y = 1$

Solve the following equations

4) $-(x - 2) - 6 = 8$

5) $1.6a + 2.4a - 7 = 3$

6) $5 + \frac{2}{3}t = 23$

7) $-(3 + x) - \frac{x}{4} = \frac{7}{2}$

8) $\frac{x - 3}{2} + 6 = \frac{x}{3}$

9) $3(x + 2) + 2(x - 3) = -5$

Solve the equation for x

10) $\sqrt{x} - C = 12$

11) $y = mx + cx + b$

12) $y = mx + b$

Solve the inequality and graph it's solution on the number line.

13) $-3m - 6(m - 2) \geq 9$

14) $-2 < 3t - 2 \leq 10$

15) $3x - 7 < 11$ or $9x - 4 > x + 4$

Solve the following absolute value equation.

16. $2|3x - 2| = 10$

Graph the solution of the absolute value inequality.

17. $2|2x - 5| \geq 10$

Solve the following word problem by setting up an equation, with a single variable.

Show all of the work. An answer arrived at by guessing is not acceptable.

18. John gets paid $5.25 an hour at his job. How many hours must he work in a week in order to make $189 during that week?

Find the slope between the two points.

19) (5, -12) and (15, -2)

20) (.3, 6), (.3, -2)

21) (-4, 2) and (-6, 2)

Change the following equations into slope-intecept form (y = mx + b).

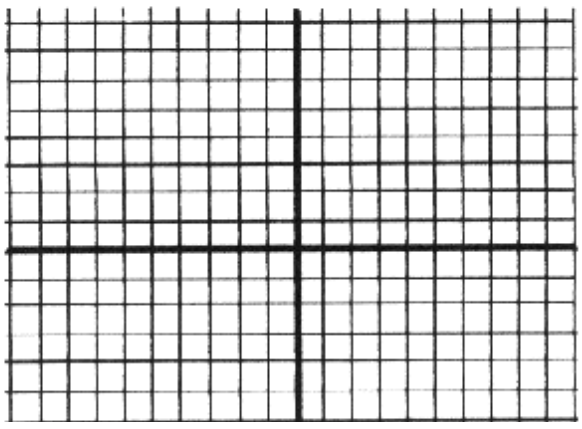
22. 2x + 6 = 3y

23. -x - 2y = 4

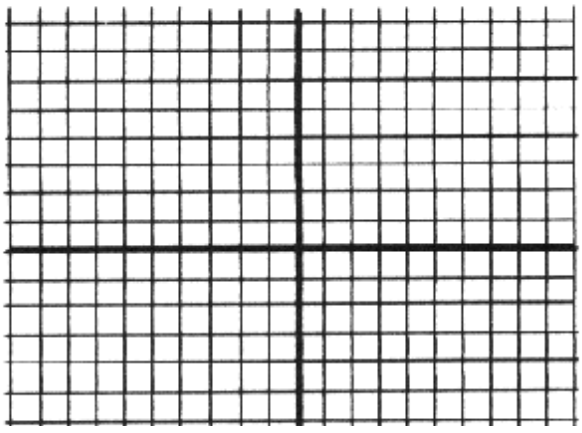
Find the x and y intercepts of the above 2 equations.

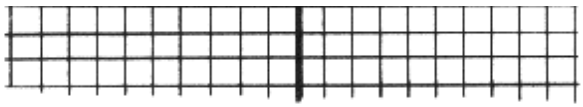
Find the slope and y intercept of the following linear equations and then graph the line.

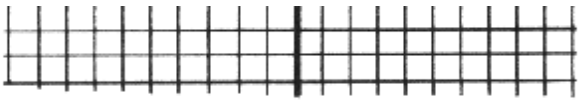
24. x = - 3



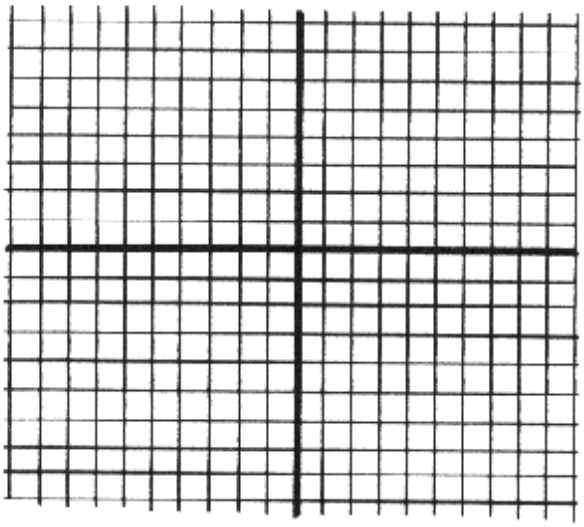
25. y = 4



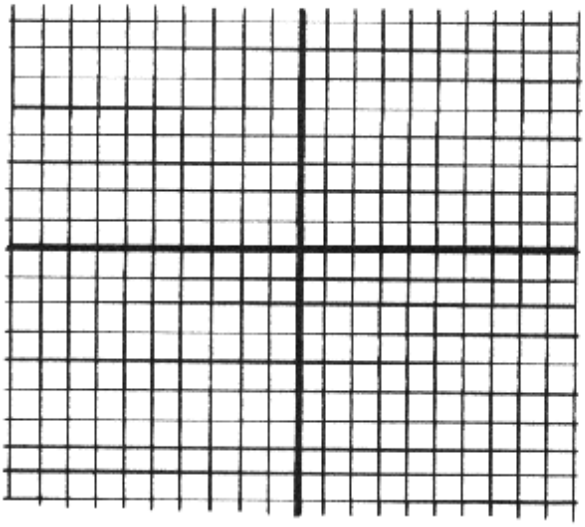




26. $\frac{2y}{3} + 2x - 5$



27. $2x - 3y = 12$



Find the equation of the line, in slope intercept form, if the follov ' 's true:

28) The line has a slope of 5 and a y intercept at 3.

29) The line has a slope of 3 and passes through the point (3, 9).

30) The line has no slope and passes through the point (1, -3).

31) The line has 0 slope and passes through the point (1, -3).

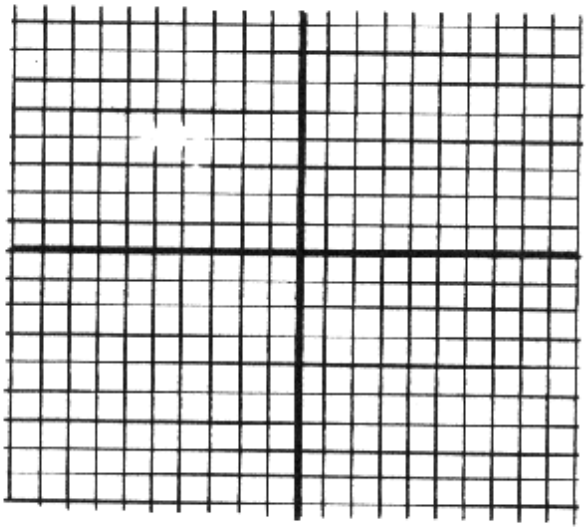
32) The line passes through the points (-2, 3) and (-4, 7).

33) The line is parallel to $2y - 3x - 9$ and passes through the point (1, 0).

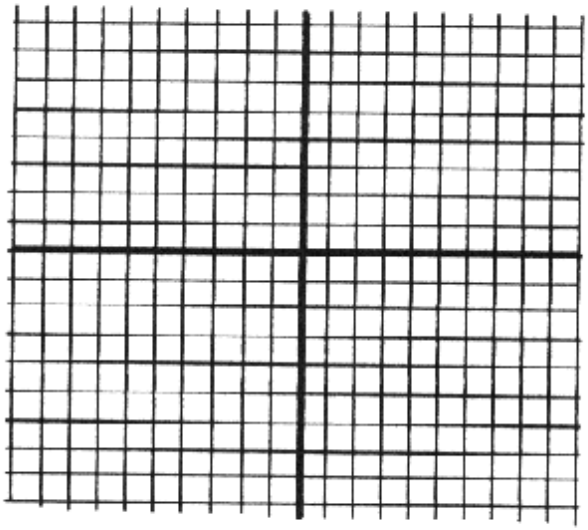
34) The line is perpendicular to $y = 2x - 6$ and passes through the point (3, -2).

Graph the following linear inequalities (make sure that you shade the appropriate region)

35. $2y > 3x - 6$



36. $3x - 2y \leq 4$



37. $x < -2$