Geometry—Algebra Review A7 HW #_____ Name_____
Review: Equations, Inequalities, Graphing Lines

Solve for x. Give answers in simplest form.	
1. $-5x + 4 = 12 - 3x$	2. $6x - 3(6 - 5x) + 3x = 10 - 4(2 - x)$
3. $\frac{3}{4}(4x - 15) = \frac{-3}{2}(4x - 18)$	4. $0.25(3x - 20) = 2 - 1.8x$
Solve for x. Give answers in simplest form. Graph the solution on a number line.	
5. $2x - 5 + 4(6 - 3x) \le -2x + 43$	6. $\frac{4x + 9}{3} < 1 - \frac{2 - 5x}{5}$
7. $6x + 1 \ge 17$ *or* $\frac{-2}{3}x - 4 \ge 6$	8. $-12 < 2x + 3 < 17$

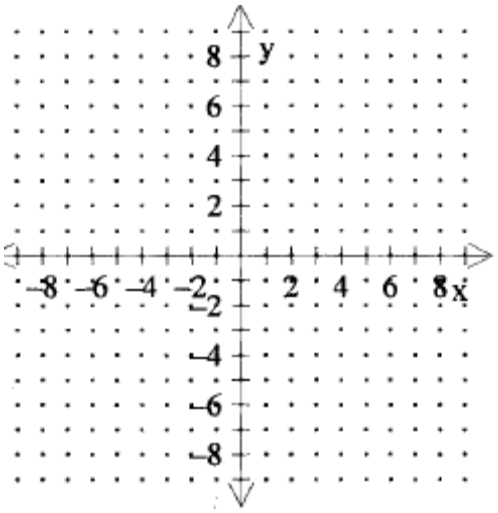
9. Solve by substitution. Give answer in (x, y) form.

$$8x + y = 15$$
$$2x + 2y = 9$$

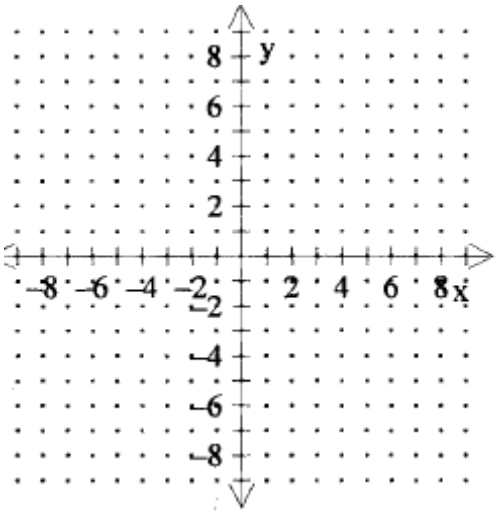
10. Solve by linear combination. Give answer in (x, y) form.

$$7x + 4y = 22$$
$$5x + 9y = -15$$

11. Find slope and y-intercept and use them to graph the line $3x + 4y = -12$.



12. Find the x- and y-intercepts and use them to graph the line $7x - 8y = 28$.



Answers: 1. -4 2. 1 3. $\frac{17}{4}$ 4. $\frac{140}{51}$ 5. $x \geq -3$ 6. $x > \frac{-36}{5}$ 7. $x \geq \frac{8}{3}$ *or* $x \leq -15$

8. $\frac{-15}{2} < x < 7$ 9. $\left(\frac{3}{2}, 3\right)$ 10. (6, -5) 11. $m = \frac{-3}{4}$, $b = -3$ 12. (4, 0) , (0, -3.5)