

Key

Geometry: Ch 13 Test Review (Day 2)

1. Write the equation of the line with the following conditions. Write all answers in slope-intercept form.

a. Through (0, 0) and (-3, 3)  $y = -x$

b. Through (0, 10) and parallel to  $-y = 3 - 2x$

$y = 2x + 10$

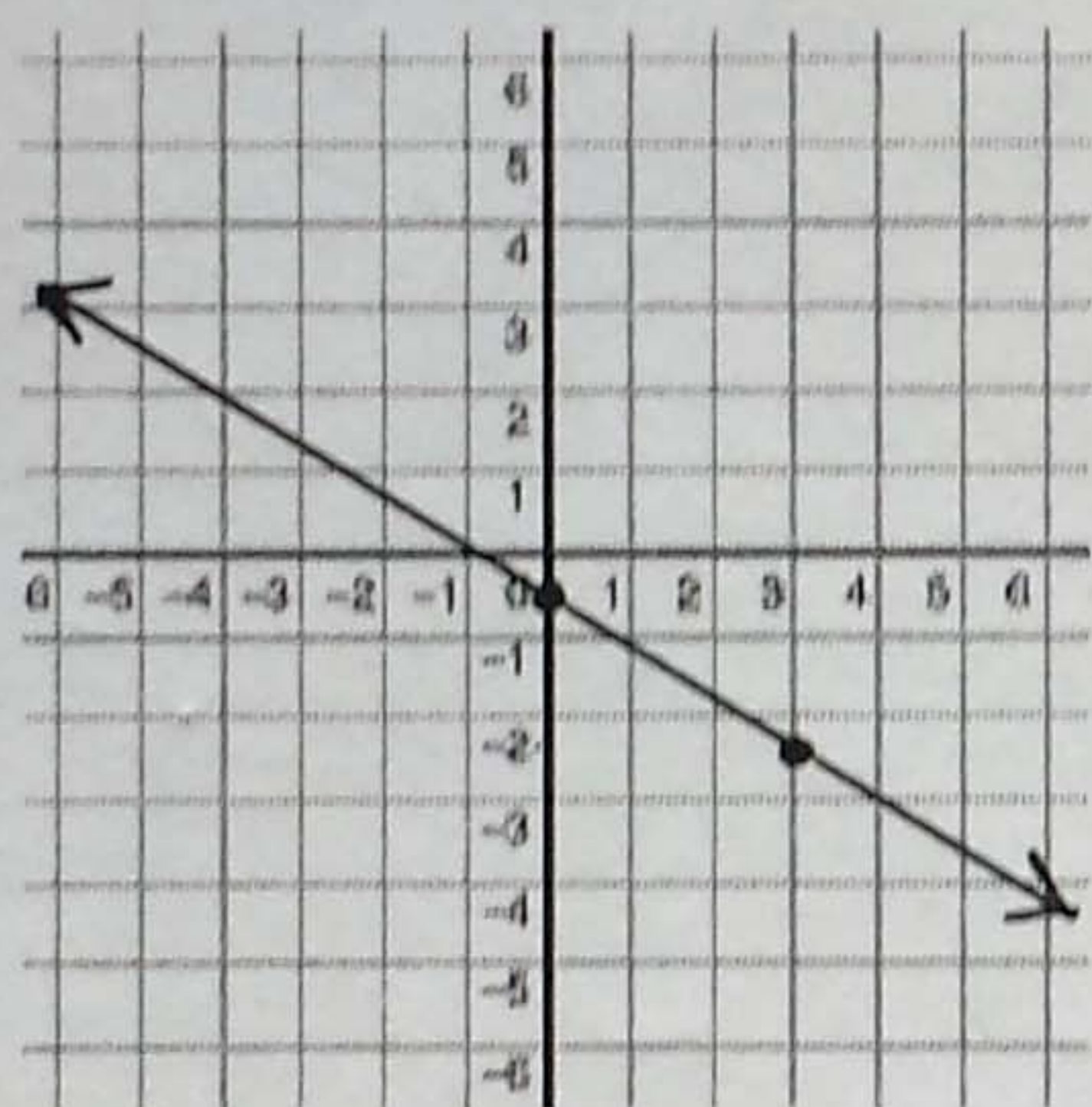
2. Solve using the indicated method.

a. Substitution  $\begin{cases} y = x - 6 \\ x + y = -2 \end{cases}$   $(2, -4)$

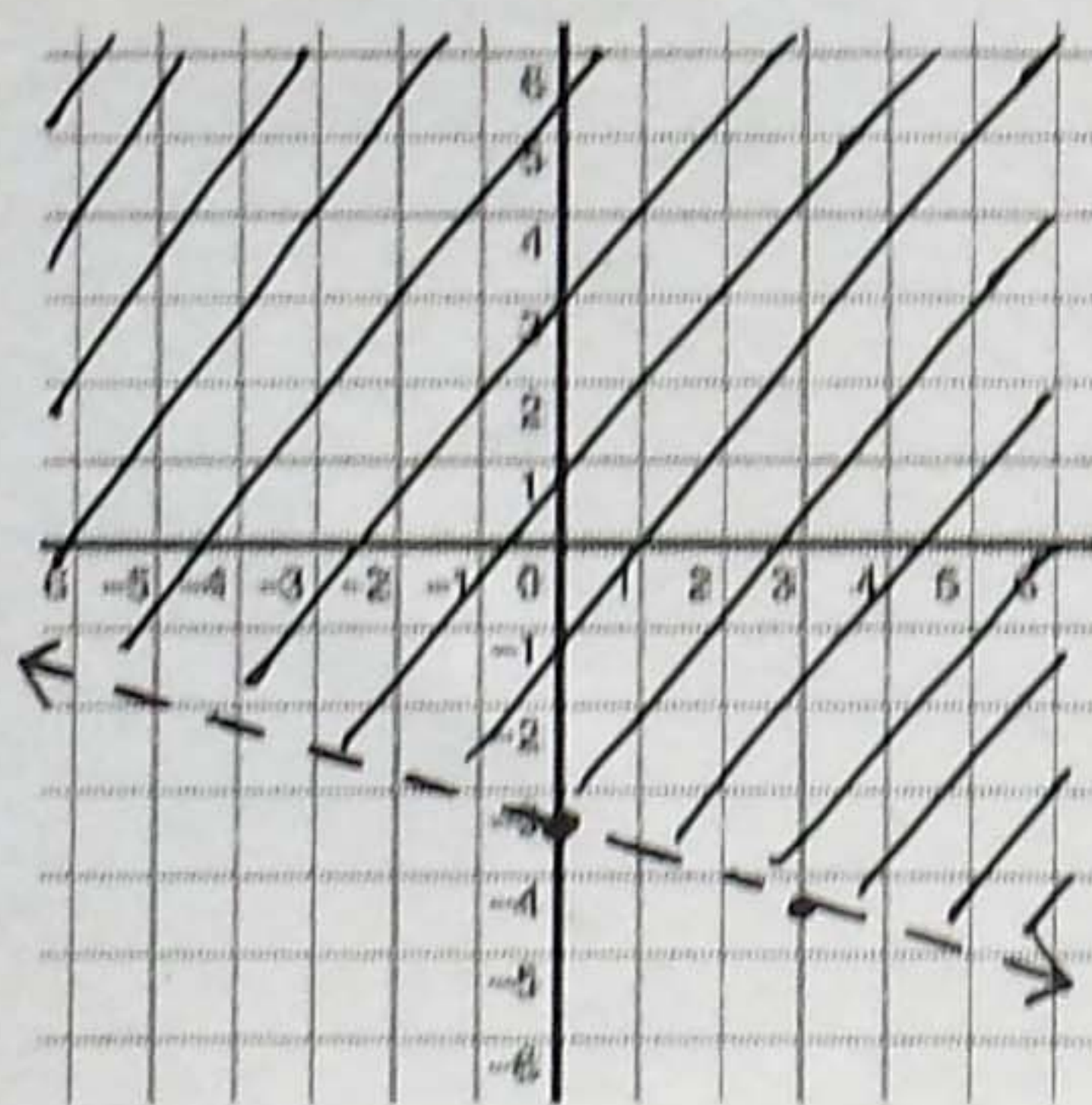
b. Elimination  $\begin{cases} x + 4y = 18 \\ 4x + 3y = 7 \end{cases}$   $(-2, 5)$

3. Graph on the grid provided.

a.  $3y = -2x - 1 \rightarrow y = -\frac{2}{3}x - \frac{1}{3}$



b.  $x + 3y > -10 \rightarrow y > -\frac{1}{3}x - \frac{10}{3}$



4. Solve  $|x + 3| \leq 12$   $x \leq 9$   $x \geq -15$

5. Factor completely.

a.  $x^2 - 14x + 24$   $(x-12)(x-2)$

b.  $-ky - 4k + 7y + 28$   $(-k+7)(y+4)$

c.  $288y^2 - 8$   $8(6y+1)(6y-1)$

d.  $9x^2 - 24x + 16$   $(3x-4)(3x-4)$

6. Solve for the variable using the indicated method.

a. Factoring and zero product property  $7x^2 - 8x + 1 = 0$   $x = \frac{1}{7}, 1$

b. Take the square root of both sides  $3x^2 = 12$   $x = \pm 2$

c. Quadratic Formula (Yes, factoring works, but use the Quadratic Formula to show your work)  $x^2 - 6x = 16$   $x = -2, 8$

7. Circle the set(s) to which each number belongs.

N = Natural I = Integer Q' = Irrational  
N<sub>0</sub> = Whole Q = Rational R = Real

a.  $\sqrt{8}$  N N<sub>0</sub> I Q **Q' R**

b.  $\sqrt{\frac{25}{16}}$  N N<sub>0</sub> I **Q Q' R**

c. -27 N N<sub>0</sub> **I Q Q' R**

d. 0 N **N<sub>0</sub> I Q Q' R**

8. For sets A = {0, 5, 10, 15, 20} B = {0, 2, 4, 6, 8, 10, 12} C = {0, 2, 5, 8, 11}, find:

a.  $A \cap C$   $\{0, 5\}$

b.  $B \cup C$   $\{0, 2, 4, 5, 6, 8, 10, 11, 12\}$

9. Simplify completely. Assume all variables are positive.

a.  $\sqrt{48}$   $4\sqrt{3}$

b.  $\sqrt{\frac{x^3}{81}}$   $\frac{x\sqrt{x}}{9}$

c.  $x\sqrt{x^2y^3} - 2\sqrt{y}$   $(x^2y-2)\sqrt{y}$

d.  $17\sqrt{m} + 10\sqrt{m}$   $27\sqrt{m}$

e.  $\sqrt{32ab} \cdot \sqrt{6a^4b^2}$   $8a^2b\sqrt{3ab}$