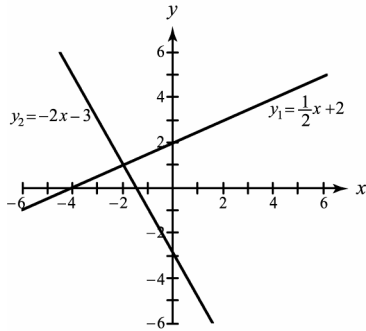


1. Solve $-4 = 3x + 5$. Check your answer. 1. _____

- (a) $\frac{1}{3}$ (b) $-\frac{1}{2}$ (c) -2 (d) -3

For #2 and #3, use the accompanying graph to solve the equation and inequality.



2. Solve $y_1 = y_2$. 2. _____

- (a) -4 (b) 1 (c) -2 (d) -3

3. Solve $y_1 > y_2$. Write your answer in interval notation. 3. _____

- (a) $(-2, \infty)$ (b) $(1, \infty)$ (c) $(-\infty, -4)$ (d) $(-3, \infty)$

4. Solve $-2 - x = 8 + 3x$ graphically. 4. _____

- (a) -5 (b) $-\frac{5}{2}$ (c) 3 (d) $\frac{3}{2}$

5. Solve $2 - 3(x + 4) = 2x - 1$. 5. _____

- (a) $-\frac{9}{5}$ (b) $\frac{7}{5}$ (c) 3 (d) -9

6. Translate the sentence into an equation and then solve.
"If -2 is subtracted from 3 times x , it equals x plus 4." 6. _____

- (a) $\frac{1}{2}$ (b) 1 (c) -3 (d) 3

7. Solve $3x + 4y = -12$ for y . Let $y = f(x)$ and write a formula for $f(x)$. 7. _____

(a) $f(x) = 4x - 12$

(b) $f(x) = -3x - 12$

(c) $f(x) = -\frac{3}{4}x - 3$

(d) $f(x) = -\frac{4}{3}x - 4$

8. Solve the inequality $3x + 2 \leq -2x + 2$. Write your answer in interval notation. 8. _____

(a) $(-\infty, 5]$

(b) $(-\infty, 0]$

(c) $(-\infty, 4]$

(d) $[\frac{4}{5}, \infty)$

9. Solve $2(4x - 3) + 1 > x$. Write your answer in interval notation. 9. _____

(a) $(\frac{5}{7}, \infty)$

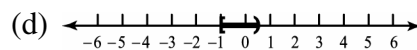
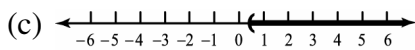
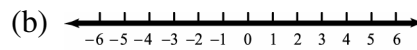
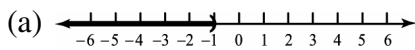
(b) $(\frac{3}{4}, \infty)$

(c) $(\frac{2}{5}, \infty)$

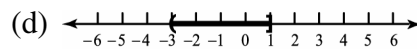
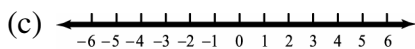
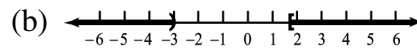
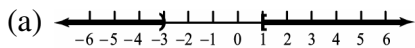
(d) $(\frac{2}{7}, \infty)$

In #10 and #11, graph the solution set to the compound inequality on a number line.

10. Solve $-2x + 3 \leq 5$ and $3x > x + 1$. 10. _____



11. Solve $2x < x - 3$ or $3x - 1 \geq 4$. 11. _____



12. Use the table to solve the compound inequality $3x < -6$ or $3x > 3$. Write your answer in interval notation. 12. _____

x	-3	-2	-1	0	1	2	3
$3x$	-9	-6	-3	0	3	6	9

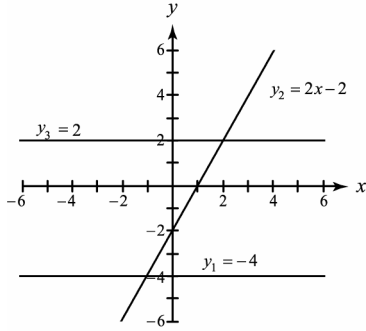
(a) $(-2, 1)$

(b) $(-\infty, -1) \cup (2, \infty)$

(c) $(-\infty, \infty)$

(d) $(-\infty, -2) \cup (1, \infty)$

For #13 and #14, use the following figure to solve the equation and inequality.



13. Solve $y_1 = y_2$. 13. _____

- (a) -1 (b) 2 (c) -4 (d) 1

14. Solve $y_1 \leq y_3$. 14. _____

- (a) $(-\infty, \infty)$ (b) $(-\infty, 2]$ (c) $[2, \infty)$ (d) $(-\infty, -1]$

In #15 and #16, solve the compound inequality and write the solution set in interval notation.

15. Solve $1 < 2 - \frac{2}{3}x \leq 4$. 15. _____

- (a) $(2, 4]$ (b) $(-\infty, -3] \cup (\frac{3}{2}, \infty)$
 (c) $(-\infty, \infty)$ (d) $[-3, \frac{3}{2})$

16. Solve $2 + \frac{1}{2}x \leq -1$ or $2 + \frac{1}{2}x > 3$. 16. _____

- (a) $[-6, 2)$ (b) $(-\infty, -\frac{3}{2}] \cup (\frac{1}{2}, \infty)$
 (c) $(-\infty, -6] \cup (2, \infty)$ (d) $(-\infty, \infty)$

17. Solve $|2 - 5x| = 3$. 17. _____

- (a) $-\frac{1}{5}, 1$ (b) $-\frac{1}{5}, -1$ (c) $-\frac{1}{5}, \frac{1}{5}$ (d) $-1, \frac{1}{5}$

18. Solve $|1 - 2x| < 2$. Write your answer in interval notation. 18. _____

- (a) $(-\infty, -1) \cup (\frac{1}{2}, \infty)$ (b) $(-\frac{1}{2}, \frac{3}{2})$
(c) $(-\infty, -\frac{1}{2}) \cup (\frac{3}{2}, \infty)$ (d) $(-\infty, -1) \cup (\frac{3}{2}, \infty)$

19. Solve $|2 + 3x| \geq 5$. Write your answer in interval notation. 19. _____

- (a) $[-\frac{7}{3}, 1]$ (b) $(-\infty, 1] \cup [\frac{7}{3}, \infty)$
(c) $(-\infty, -\frac{7}{3}] \cup [1, \infty)$ (d) $[-1, \frac{7}{3}]$

20. Solve the formula $d = \frac{1}{2}gt^2$ for t , where $t \geq 0$. 20. _____

- (a) $t = \sqrt{2dg}$ (b) $t = \frac{2d^2}{g}$ (c) $t = 2dg$ (d) $t = \sqrt{\frac{2d}{g}}$