1) $2x - 3 < 7 \Rightarrow x < 5$, a

2) $3x - 4 \geq 5 \Rightarrow x = 3$; b e c

3) $-1 < 9x - 1 \leq 11 \Rightarrow x = 0$, b e c

4) $-3 \leq 1 - 2x \leq 3 \Rightarrow x = 2$, a, b e c

5) $x - 4 < 2 \Rightarrow$

6) $x + 3 > 5$

7) $2x - 6 \leq 9x - 3 \Rightarrow -2x \leq 9x \geq -2$

8) $3x + 1 \geq 5x + 8 \Rightarrow -3x \geq 9 \Rightarrow x \leq -3$

9) $2 \leq x - 6 < 9 \Rightarrow -4 \leq x < 3$

10) $-1 \leq 3x - 2 < 7 \Rightarrow \frac{1}{3} \leq x < 3$

11) $10 - 6x + 5x - 3 \leq 2x - 1 \Rightarrow 7 \leq 2x + 1 \Rightarrow 6 \leq 2x + 1 \Rightarrow x \geq 3$

~~12) $4 - 4x + 5 + 5x$~~ 3 4 5 6 7 8

12) $4 - 4x + 5 + 5x > 3x - 1 \Rightarrow 10 + x > 3x \Rightarrow x < 5$

13) $4\left(\frac{6x+7}{4}\right) \leq 4(-3) \Rightarrow 5x + 7 \leq -12 \Rightarrow 9x \leq -19 \Rightarrow x \leq -\frac{19}{5}$

14) $5\left(\frac{3x-2}{5}\right) > -5 \Rightarrow 3x - 2 > -5 \Rightarrow 3x > -3 \Rightarrow x > -1$

15) $4(-2) > 4 \cdot \left(\frac{3y-1}{4}\right) > 4(-2) \Rightarrow -1 > 3y - 1 > -4 \Rightarrow \frac{0}{3} > y > -1 \Rightarrow -1 < y \leq \frac{0}{3}$

17. $0 \leq 2y + 5 < 8 \Rightarrow -5 \leq 2y < 3 \Rightarrow -\frac{5}{2} \leq y < \frac{3}{5}$

18. $-6 < 5x - 1 < 0 \Rightarrow -5 < 5x < 1 \Rightarrow -1 < x < \frac{1}{5}$

19. $12\left(\frac{x-5}{4} + \frac{3+2x}{3}\right) < 12 \cdot (-2)$

$3x - 15 + 12 - 8x < -24 \Rightarrow -5x - 3 < -24$

$-5x < -21$

$x \leq \frac{21}{5}$

20. $6\left(\frac{3-x}{2} + \frac{5x-2}{3}\right) < -6 \Rightarrow 3(3-x) + 2(5x-2) < -6$

$9 - 3x + 10x - 4 < -6 \Rightarrow 7x + 5 < -6 \Rightarrow 7x < -11 \Rightarrow x < -\frac{11}{7}$

21) $10\left(\frac{2y-3}{2} + \frac{3y-1}{5}\right) < 10(y-1)$

$10 - 15 + 6y - 2 < 10y - 10$

$15 < 10x + 7$

$6y < 7$

$y < \frac{7}{6}$

22) $2\left(\frac{3-4y}{6} - \frac{2y-3}{8}\right) \geq 24 - y$

$12 - 15y - 6y + 9 \geq 48 - 24y$

$-22 \geq 27 - 24y$

$2y \geq 27$

$y \geq \frac{27}{2}$

23. $-3x - 4 \leq 30 - 10x \Rightarrow -3x \leq 34 - 10x \Rightarrow 7x \leq 34$

$x \leq \frac{34}{7}$

24. $-3x + 9 + 12x - 48 < 2x - 5$

$15x < 2x + 33$

$13x < 33$

$x < \frac{33}{13}$

25. Falso

26. Verdadeiro

27. $x + 4 \leq -5$ ou $x + 4 \geq 5$

$x \leq -9$ $\qquad$ $x \geq 1$

28- $2x - 1 > 3,6$

$2x > 2,3$

29- $-2 < x - 3 < 2 \Rightarrow -2 < x < 5$

30- $-5 \leq x + 3 < 5 \Rightarrow -8 \leq x \leq 2$

31- $-6 < 4 - 3x < 6$

$-10 < -3x < 6$

$\frac{10}{3} > x > \frac{-2}{3}$

32- $3 - 2x \geq 5$

$-2x \geq 0$

$x \leq 0$

33- $\frac{x+2}{3} \leq -3$ ou $\frac{x+2}{3} \geq 3$

34- $-5 \leq \frac{x-5}{4} \leq 5$ $\Rightarrow -19 \leq x \leq 29$

$-24 \leq x - 5 \leq 24$

35- $x = \frac{-3}{2}$ ou $x = -7$

35- $5x^2 - 13x + 5 = 0$

$(2x-3)(3x-2) = 0$

$2x - 3 = 0$ ou $3x - 2 = 0$

37- $2x^2 + 7x - 15 = 0$ $\quad x = \frac{3}{2}$

$(2x-3)(x+5) = 0$

38 - $4x^2 - 9x + 2 = 0$

$(4x-1)(x-2) = 0$

$x = \frac{1}{4}$ ou $x = 2$

39 - $2 \cdot 5x - 3x^2 = 0$

$(2+x)(1-3x) = 0$

$2 + x = 0$ ou $1 - 3x = 0$

$x = -2$ ou $x = \frac{1}{3}$

40 - $21 + 4x - x^2 = 0$

$(7-x)(3+x) = 0$

$x = 7$ ou $x = -3$

41 - $x^3 - x = 0 \Rightarrow x(x+1)(x-1) = 0 \Rightarrow x = 0$, $x = -1$ ou $x = 1$

42 - $x^3 - x^2 - 30x = 0$

$x(x^2 - x - 30) = 0$

$x(x-6)(x+5) = 0$

$x = 0$, $x = 6$, $x = -5$

43 - $-0,24$ e $4,24$

44 - $-\infty, \frac{3}{4}$ e $\frac{4}{3}, +\infty$

45 - $6x^2 - 5x - 4 = 0 \Rightarrow 3x - 4 = 0$ ou $2x + 1 = 0$

$x = \frac{4}{3}$ ou $x = \frac{-1}{2}$

45 - $4x^2 - 1 = 0 \Rightarrow (2x+1)(2x+1) = 0 \Rightarrow x = -\frac{1}{2}$ ou $x = \frac{1}{2}$

47 - $\{-\infty, -1,41\} \cup \{0,08, \infty\}$

48 - $\{0, 79\} \cup [2,21)$

49 - $4x^2 - 4x + 1 = 0$

$(2x-1)(2x-1) = 0$

$(2x-1)^2 =$

$2x - 1 = 0$

$x = \frac{1}{2}$

50 - $x^2 - 6x + 9 = 0$

$(x-3) \cdot (x-3) = 0$

$(x-3)^2 = 0$

$x - 3 = 0$

$x = 3$

51 - $(3x+2)^2 = 0$

$3x + 2 = 0$, $x = -\frac{2}{3}$

52 - $(3x+2)(3x+2) = 0$

$(3x+2)^2 = 0$

53 - $A: \{-2,8, 0,57\} \cup \{1,91, \infty\}$

54 - $A: (-2,06; 0,13) \cup (1,93, \infty)$

55 - $A: (1,11) \cup (\infty)$