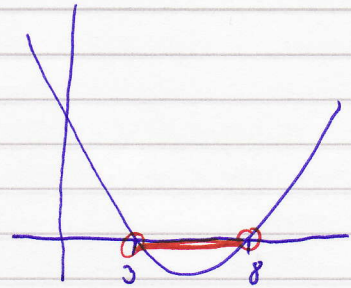


Ex 3

① $x^2 - 11x + 24 < 0$

$$(x+8)(x-3) < 0$$

$$x=8, x=3$$

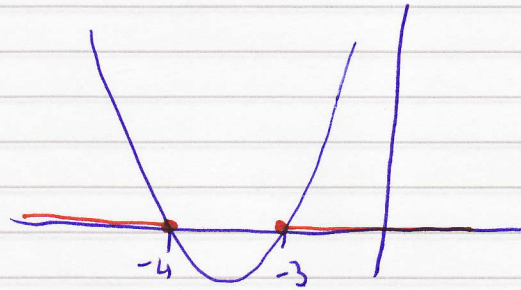


$$3 < x < 8$$

② $x^2 + 7x + 12 \geq 0$

$$(x+3)(x+4) = 0$$

$$x=-3, x=-4$$



$$x < -4 \text{ or } x > -3$$

③ $4x^2 - 8x + 3 \leq 0$

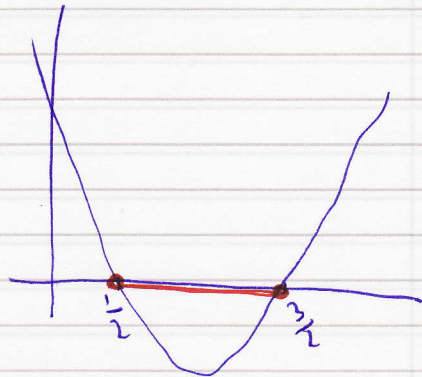
$$\textcircled{12x}$$

$$4x^2 - 2x - 6x + 3 = 0$$

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

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

$$x = \frac{1}{2}, x = \frac{3}{2}$$



$$\frac{1}{2} \leq x \leq \frac{3}{2}$$

④ $6x^2 + 11x - 10 > 0$

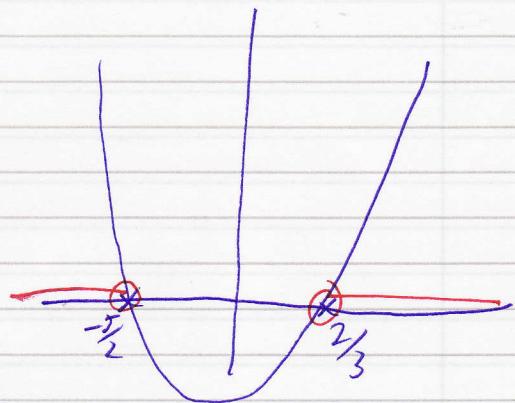
$$\textcircled{-60x}$$

$$6x^2 + 15x - 4x - 10 = 0$$

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

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

$$x = \frac{2}{3}, x = -\frac{5}{2}$$



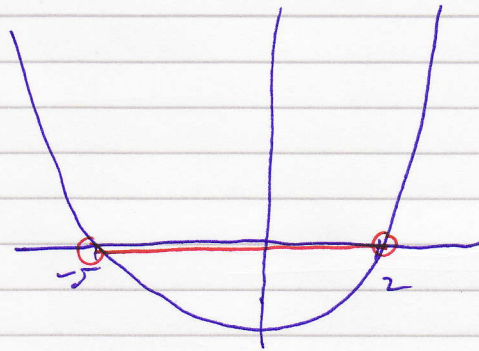
$$x < -\frac{5}{2} \text{ or } x > \frac{2}{3}$$

$$\textcircled{5} \quad x^2 < 10 - 3x$$

$$x^2 + 3x - 10 < 0$$

$$(x+5)(x-2) < 0$$

$$x = -5 \quad x = 2$$



$$-5 < x < 2$$

$$\textcircled{6} \quad x(3-2x) > 1$$

$$3x - 2x^2 - 1 > 0$$

$$-2x^2 + 3x - 1 > 0$$

Solve $2x^2 - 3x + 1 = 0$

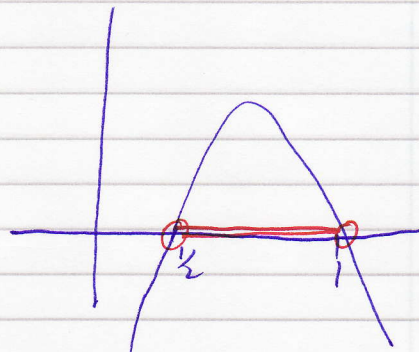
(2x)

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

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

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

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



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

$$\textcircled{7} \quad x(x+11) < 3(1-x^2)$$

$$x^2 + 11x < 3 - 3x^2$$

$$4x^2 + 11x - 3 < 0$$

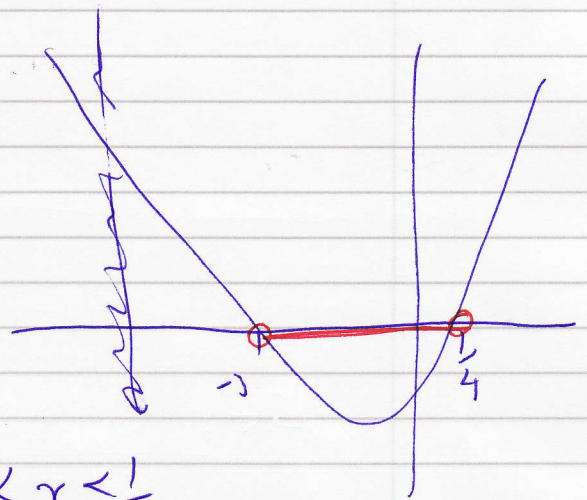
(-12x)

$$4x^2 + 12x - 1x - 3 = 0$$

$$4x(x+3) - 1(x+3) = 0$$

$$(4x-1)(x+3) = 0$$

$$x = \frac{1}{4} \quad \text{or} \quad x = -3$$



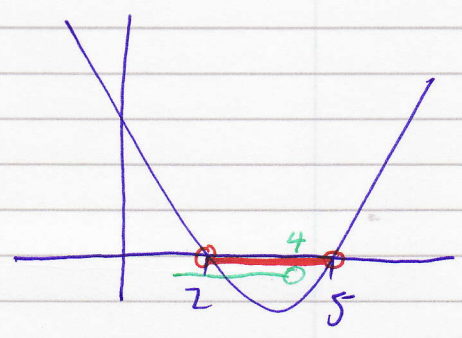
$$-3 < x < \frac{1}{4}$$

8

$$x^2 - 7x + 10 < 0$$

$$(x-2)(x-5) < 0$$

$x=2$ or $x=5$ *Red line*



AND $3x+5 < 17$

$$3x < 12$$

$$x < 4$$
 green

$$2 < x < 4$$

9

$$4x^2 - 3x - 1 < 0$$

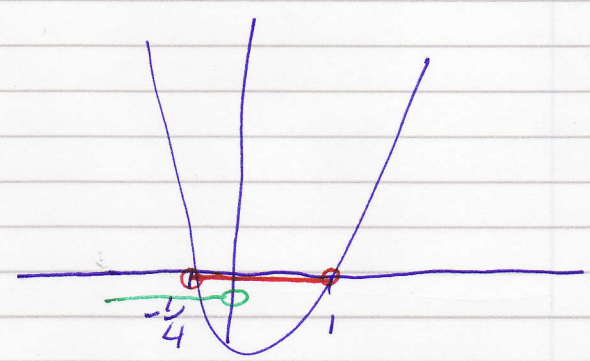
$$-4x$$

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

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

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

$$x = -\frac{1}{4} \quad x = 1$$
 Red



AND $4(x+2) < 15 - (x+7)$

$$4x+8 < 15-x-7$$

$$5x < 0$$

$$x < 0$$
 green

$$-\frac{1}{4} < x < 0$$

10

$$x^2 - 2x - 3 < 0$$

$$(x-3)(x+1) < 0$$

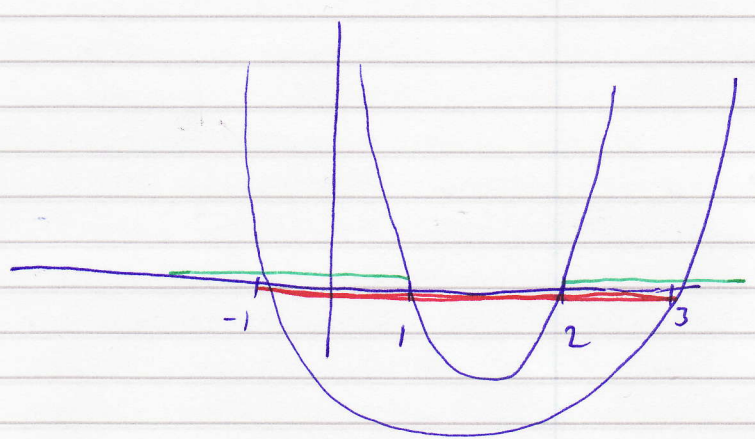
$$x = -1, x = 3$$
 Red

AND

$$x^2 - 3x + 2 > 0$$

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

$$x < 1, x > 2$$



$$x < -1 \text{ or } x > 3$$