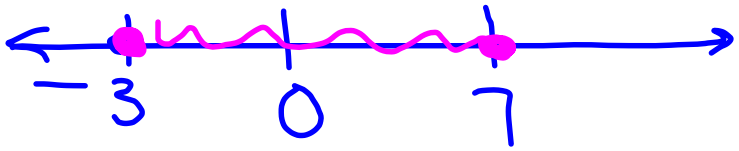
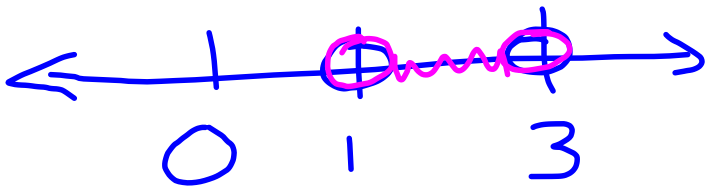
(3) $(x-7)(x+3) \leq 0$



$[-3, 7]$

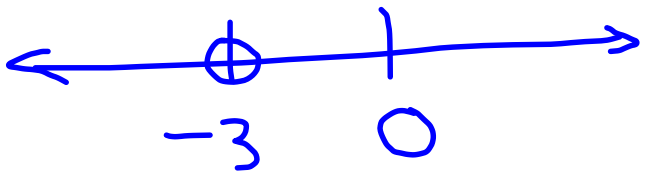
6

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



$(1, 3)$

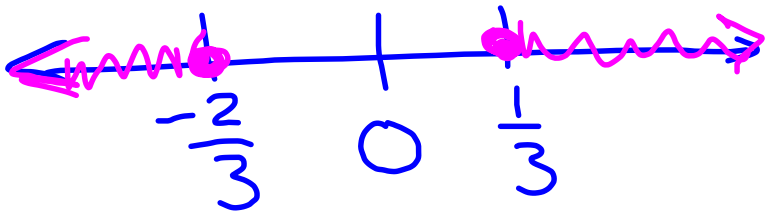
9 $(x-3)(x-3)<0$



$\emptyset$

12

$$(3x+2)(3x-1)\geq 0$$

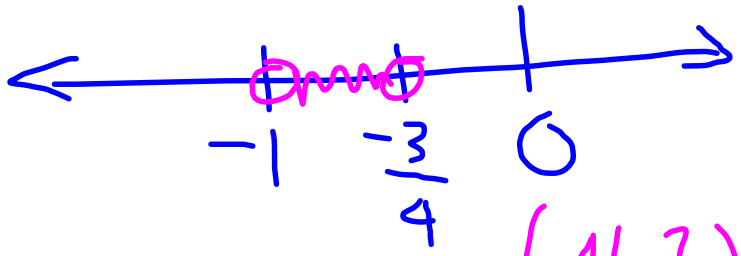


$$(-\infty, -\tfrac{2}{3}] \vee [\tfrac{1}{3}, \infty)$$

15

$$4x^2 + 7x + 3 < 0$$

$$(4x + 3)(x + 1) < 0$$



test $-\frac{7}{8}$

$\left(4\left(-\frac{7}{8}\right)+3\right)\left(-\frac{7}{8}+1\right)$

$\left(-\frac{1}{2}\right)\left(\frac{1}{8}\right) < 0$

$\left(-1, -\frac{3}{4}\right)$

(18) $4x^2 - 4x + 1 \geq 0$

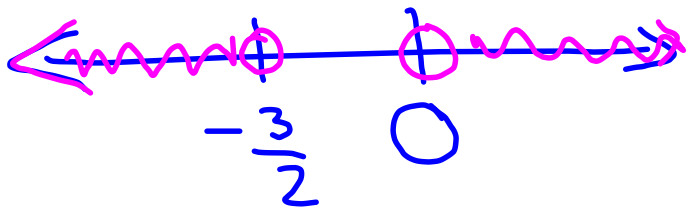
$(2x-1)(2x-1) \geq 0$

$(-\infty, \infty)$

21

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

$$x(2x+3) > 0$$

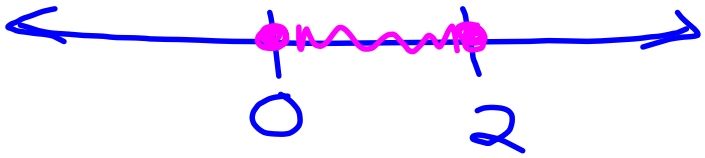


$$(-\infty, -\tfrac{3}{2}) \vee (0, \infty)$$

24

$$-x(x-2) \geq 0$$

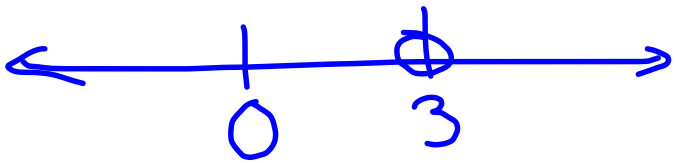
$$x(x-2) \leq 0$$



$[0, 2]$

27

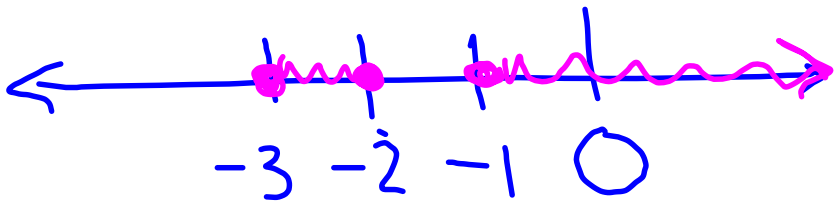
$(x-3)(x-3)<0$



$\emptyset$

30

$$(x+1)(x+2)(x+3) \geq 0$$



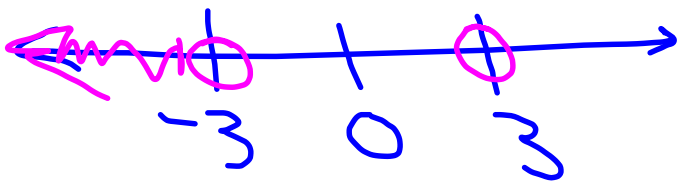
$$[-3,-2] \cup [-1,\infty)$$

33

$$x^2(x-3) - 9(x-3) < 0$$

$$(x^2 - 9)(x-3) < 0$$

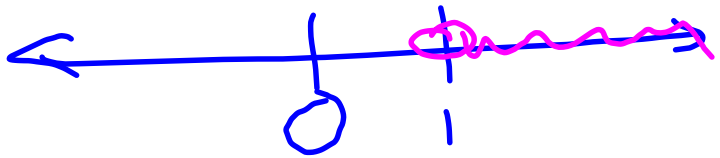
$$(x+3)(x-3)(x-3) < 0$$



$$(-\infty, -3)$$

36 $x^2(x-1)+9(x-1)>0$

$(x^2+9)(x-1)>0$



$(1,\infty)$

102 a all real x's will be true

b. $\varnothing$

c. $X = \dfrac{8 \pm \sqrt{64-112}}{8}$

$\Rightarrow$ roots imaginary

so no x-intercepts

Test $x=0$ $4(0)^2-8(0)+7>0$

Test $x=0$ $4(0)^2-8(0)+7<0$

false.