

$$3) \quad c) \quad 2x^2 - 7x = 0 \vee 13 - 2x < 3$$

$$2x^2 = 7x \quad | :2 \quad 13 - 2x < 3 \quad | -3$$

$$x^2 = 36 \quad | \sqrt{\phantom{x}} \quad 10 < +2x \quad | :2$$

$$x = \pm 6 \quad 5 < x$$

$$x \in \{6\} \vee x \in \langle 5, \rightarrow \rangle$$

$$d) \quad x^2 + x = x(x+1)$$

Hvis  $x$  = partall,  $x+1$  er oddetall

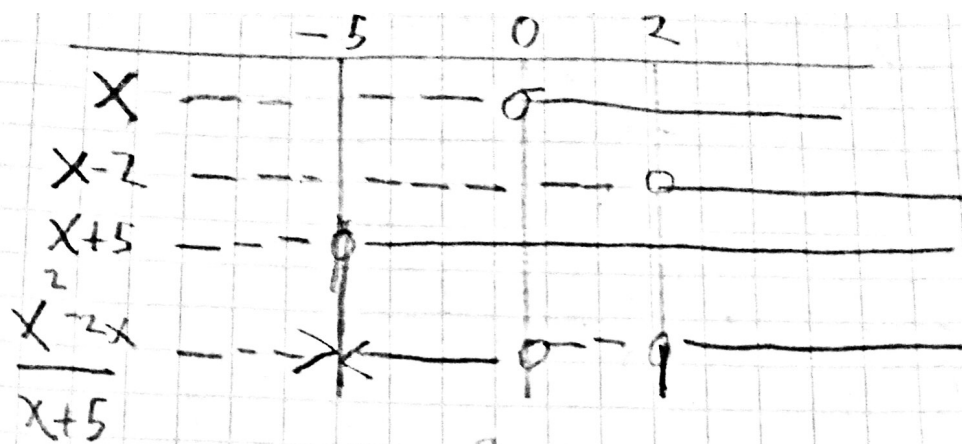
Hvis  $x$  = oddetall,  $x+1$  partall

Uansett har vi partall  $\cdot$  oddetall

$$2k(2k+1) = x \cdot (x+1)$$

$$2(2k^2 + k)$$

$2k^2 + k$  er et helt tall  $2 \cdot \text{helt tall} = \text{partall}$



$$\frac{x^2 - 2x}{x + 5} \leq 0 \text{ när } x \in (-\infty, -5) \cup (-5, 2)$$

9  $\frac{x}{x-4} - \frac{5}{x} = \frac{16}{x^2 - 4x}$

$$x(x) - 5(x-4) = 16$$

$$x^2 - 5x + 20 = 16 \quad | -16$$

$$x^2 - 5x + 4 = 0$$

$$(x-7)(x-4)$$

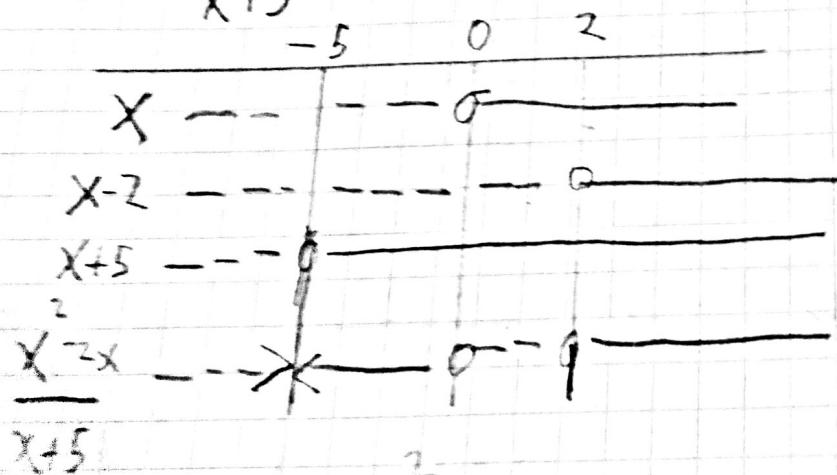
$$\underline{\underline{x = -7 \cup x = -4}}$$

3 a)  $2x = 10$   $\boxed{\times}$   $x = 5$  ingen lösning

b)  $x = 2 \vee x = -7$   $\boxed{\leftrightarrow}$   $2x^2 - 2x = 4$

$$g) \quad \frac{x^2 - 2x}{x+5} \leq 0 \quad x \neq -5$$

$$\frac{x(x-2)}{x+5} \leq 0$$



$$\frac{x^2 - 2x}{x+5} \leq 0 \text{ när } x \in [0, 2] \cup \leftarrow -5$$

$$\frac{x}{x-4} - \frac{5}{x} = \frac{16}{x^2 - 4x}$$

$$x(x) - 5(x-4) = 16$$

$$3) \quad x^3 + x^2 - 10x + 8 : (x-2) = x^2 + 3x - 4$$

$$-(x^2 - 2x^2)$$

$$3x^2 - 10x$$

$$-(3x^2 - 6x)$$

$$-4x + 8$$

$$-(-4x + 8)$$

$$6$$

$$x = -3 \pm \frac{\sqrt{3^2 - 4 \cdot 1 \cdot -4}}{2}$$

$$x = \frac{-3 \pm \sqrt{9+16}}{2}$$

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

$$x_1 = 1$$

$$x_2 = -4$$

$$\text{nullpunkt} = x = 1$$

$$x = -4$$

$$\underline{\underline{x = 2}}$$

$$4) \quad P(1) = -1 + 1 - 10 \cdot -1 + 8 = \underline{\underline{18}}$$

$$5) \quad \frac{x^3 + x^2 - 10x + 8}{x^2 - 16} = \frac{(x-1)(x-4)(x-2)}{(x-4)(x+4)} = \frac{(x-1)(x-2)}{\underline{\underline{x+4}}}$$

$$2) \quad 9 - x^3 + 9x < 0 \quad | +x^3$$

$$9x < x^3 \quad | :x$$

$$9 < x^2 \quad | -\sqrt{\quad}$$

$$\underline{\underline{3 < x}}$$

## Inforingslelse kapittel 1.

$$1. a) p(x) = x^3 + x^2 - 10x + 8$$

$$p(2) = 8 + 4 - 20 + 8 = 0$$

$$b) x^3 + x^2 - 10x + 8 : (x-2) = x^2 + 3x - 4$$

$$-(x^3 - 2x^2)$$

$$3x^2 - 10x$$

$$-(3x^2 - 6x)$$

$$-4x + 8$$

$$-(-4x + 8)$$

$$0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4 \cdot 1 \cdot (-4)}}{2}$$

$$x = \frac{-3 \pm \sqrt{9 + 16}}{2}$$

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

$$x_1 = 1$$

$$x_2 = -4$$

$$\text{nullpunktter} = x = 1$$

$$x = -4$$

$$x = 1$$