

FONCTION QUADRATIQUE

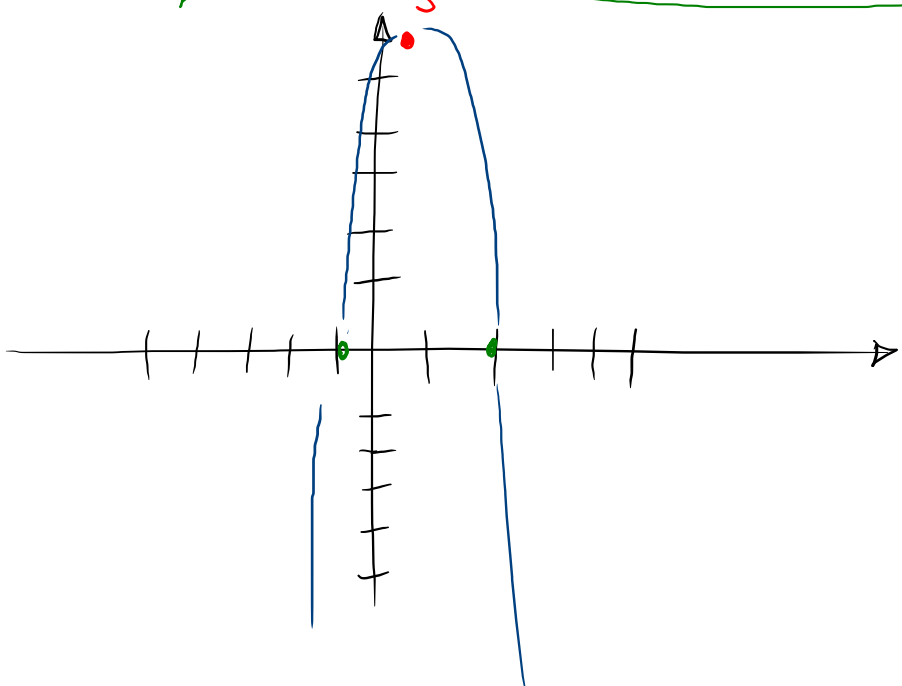
$$f(x) = -3x^2 + 3x + 5$$

$$f(x) = 0 \Leftrightarrow x = \frac{-3 \pm \sqrt{9 + 60}}{-6}$$

$$x = \frac{-3 \pm \sqrt{69}}{-6} \begin{cases} -0,9 \uparrow \\ 1,9 \downarrow \end{cases}$$

Signe

x	$-0,9$	$1,9$
$f(x)$	-	+



① Ensemble de définition

$$ED_f = D_f = \mathbb{R}$$

② Zeros / Sommet $(-\frac{b}{2a}; f(-\frac{b}{2a}))$

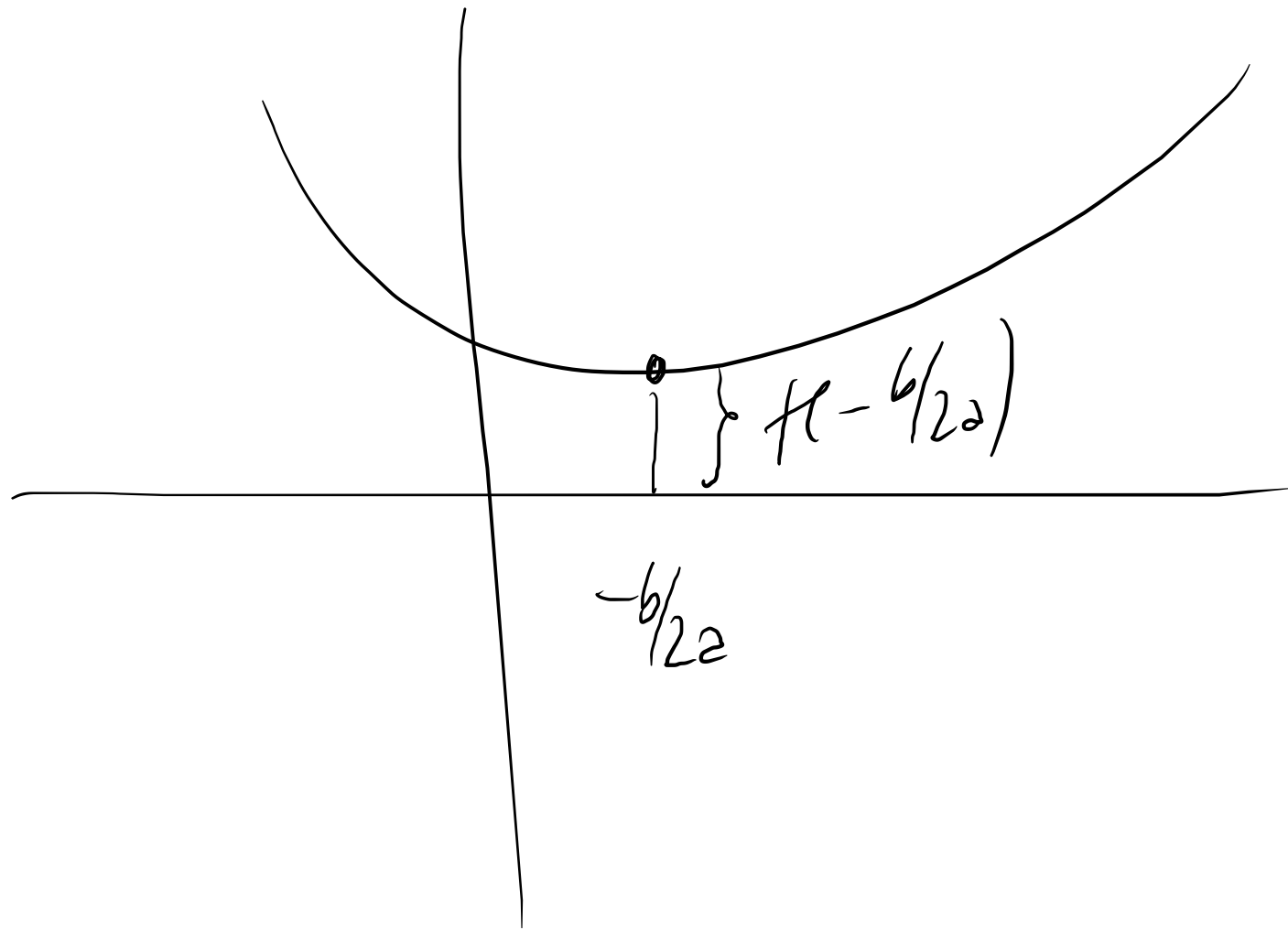
Ordonnée à l'origine

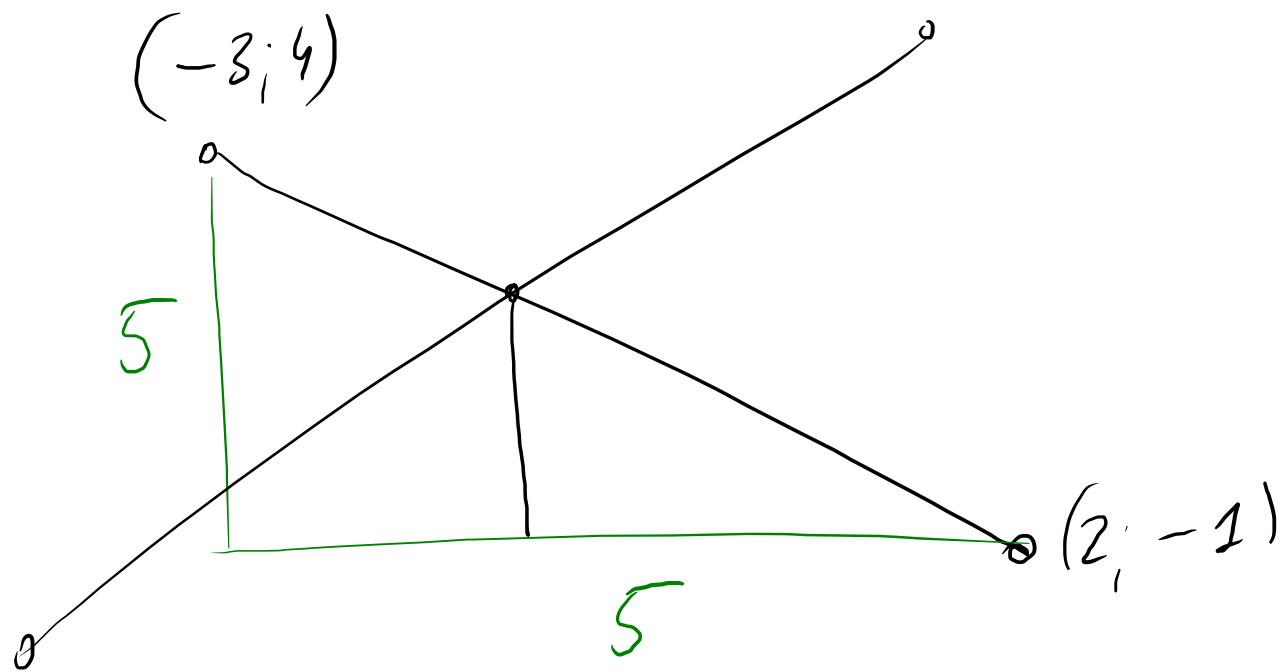
③ Signe $(0,5; \underbrace{-0,75 + 1,5 + 5}_{5,75})$

④ Graph

3.3-8

Étudier les trinômes





$$f(x) = 2x + 6$$

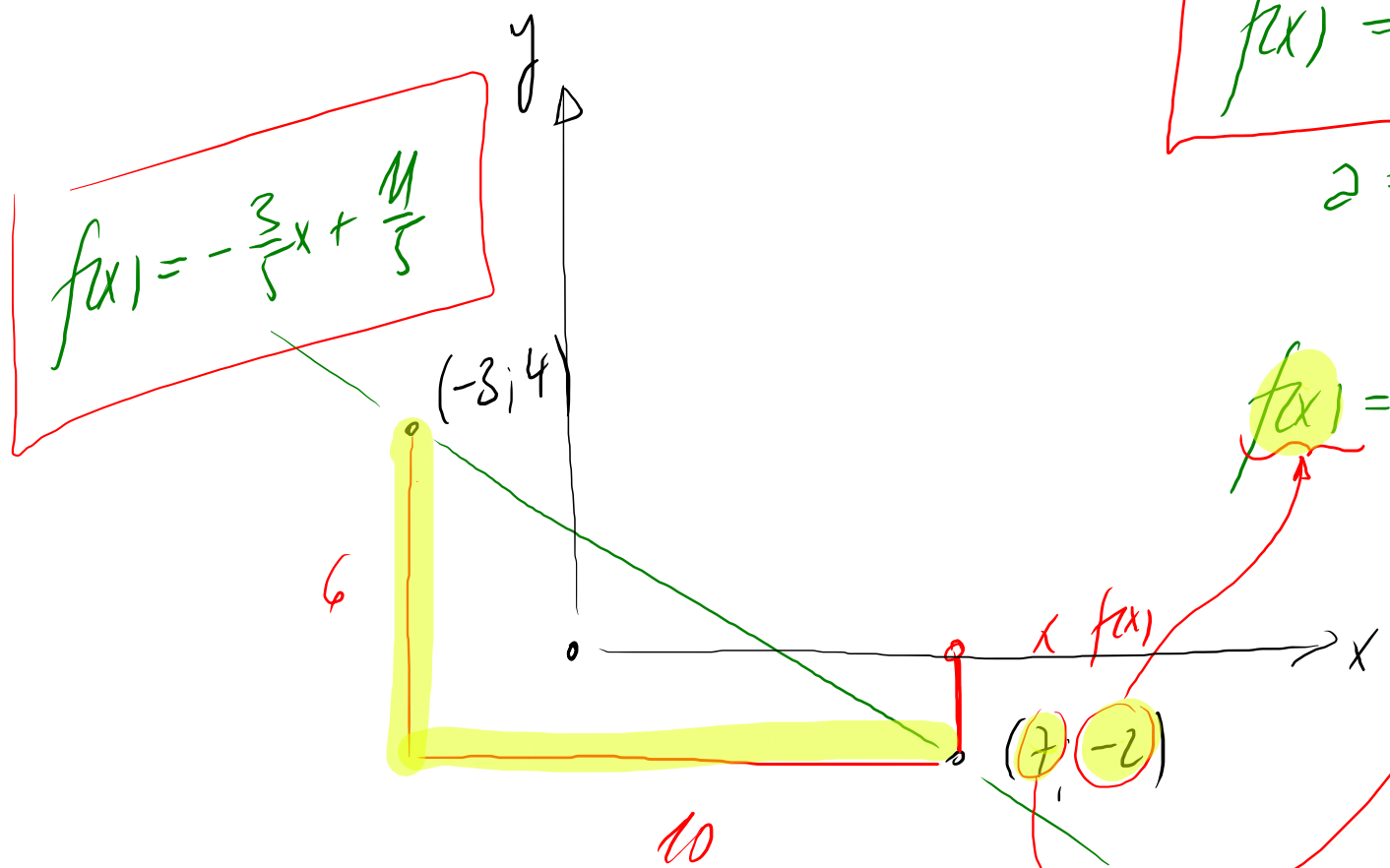
$$g(x) = 2x + 3$$

$$a = 1$$

$$f(x) = -x + b \quad \Rightarrow \quad f(x) = -x - 1$$

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

$$-1 = -2 + b \Leftrightarrow b = -1$$



$$f(x) = -\frac{3}{5}x + \frac{11}{5}$$

$$f(x) = ax + b$$

$$a = -\frac{6}{10} = -\frac{3}{5}x$$

$$f(x) = -\frac{3}{5}x + b$$

$$-2 = -\frac{3}{5} \cdot 7 + b$$

$$\frac{21}{5} - \frac{10}{5} = b \quad / \quad b = \frac{11}{5}$$

$$4 = -\frac{3}{5} \cdot (-3) + b$$

$$\frac{4}{1} = \frac{9}{5} + b \quad / \quad b = \frac{20}{5} - \frac{9}{5} = \frac{11}{5}$$

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

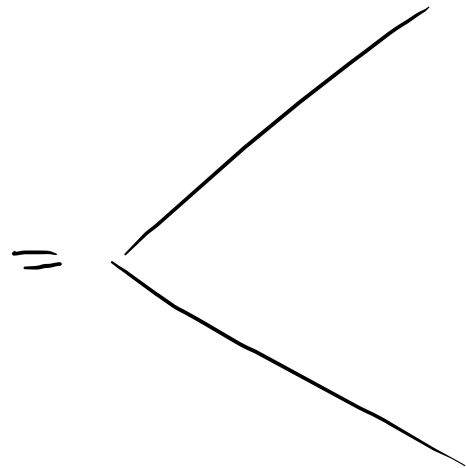
$$S(2; -4)$$

$$a=1 \quad b=-4 \quad c=0$$

$$\Delta = (-4)^2 - 4 \cdot 1 \cdot 0 = 16$$

$$\frac{4+4}{2} = 4$$

$$x = \frac{-(-4) \pm \sqrt{16}}{2 \cdot 1}$$



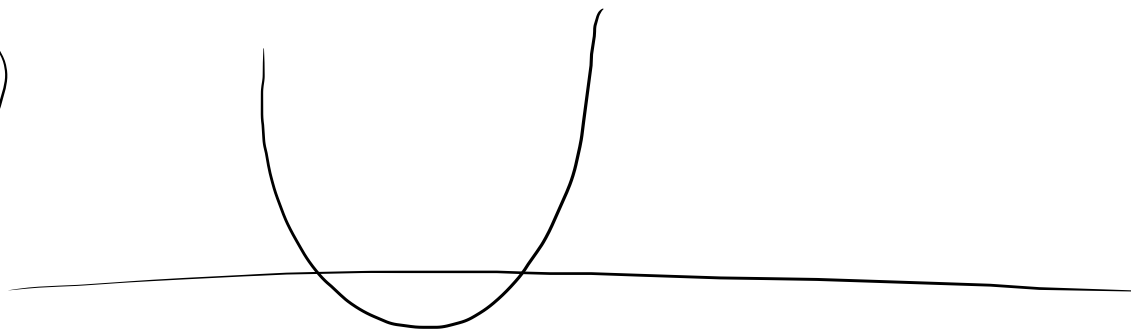
$$\frac{4-4}{2} = 0$$

$$f(x) = 2x + b \quad D_f = \mathbb{R} \quad \checkmark$$

$$f(x) = ax^2 + bx + c \quad D_f = \mathbb{R} \quad \checkmark$$

$$f(x) = \sqrt{x} \quad \triangle! \quad x \geq 0 \quad \text{si } x < 0 \quad f(x) \text{ n'est pas définie}$$

$$2x^2 + bx + c \quad \Delta \text{rel} \quad (2 > 0)$$

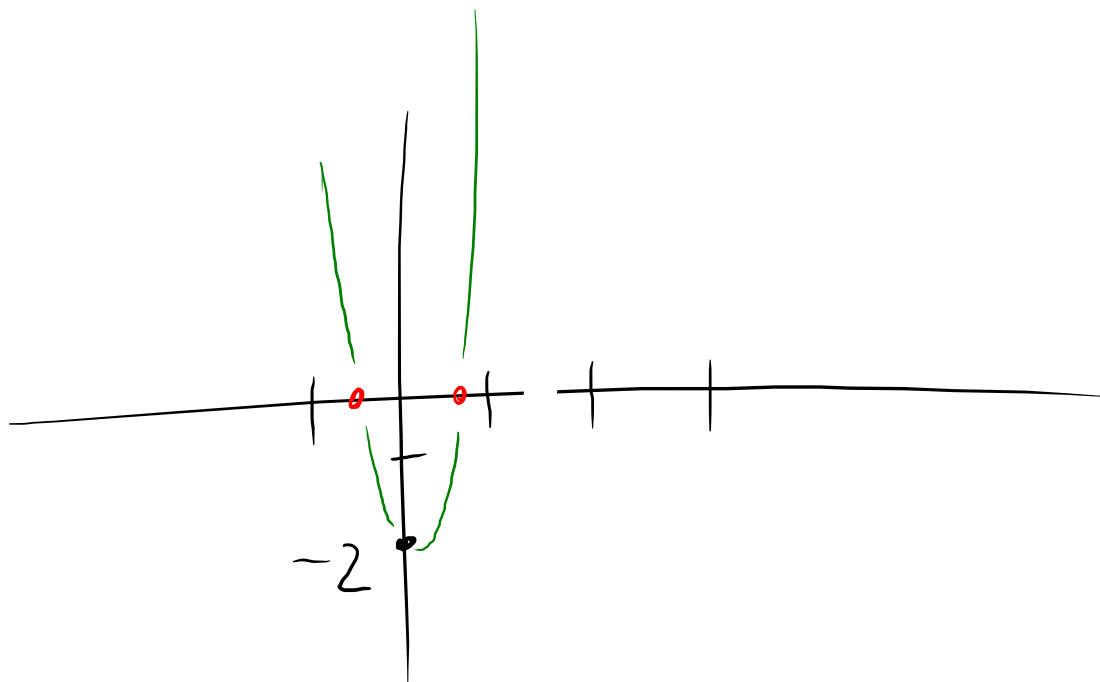


$$6x^2 - x \quad (-2)$$

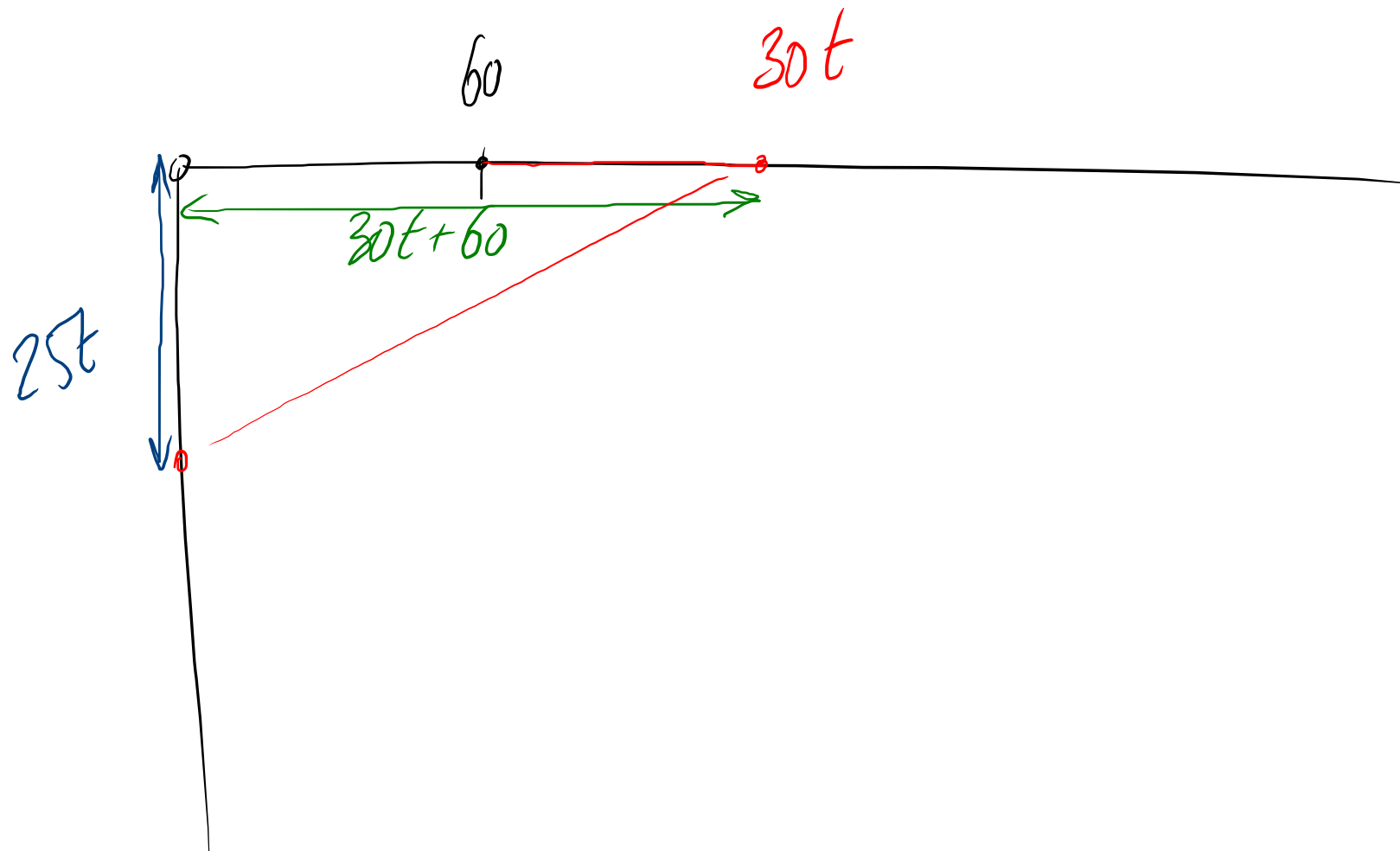
$$8/12 = 0.6\bar{6}$$

$$f(x) = 0 \quad \Leftrightarrow \quad x = \frac{1 \pm \sqrt{49}}{12}$$

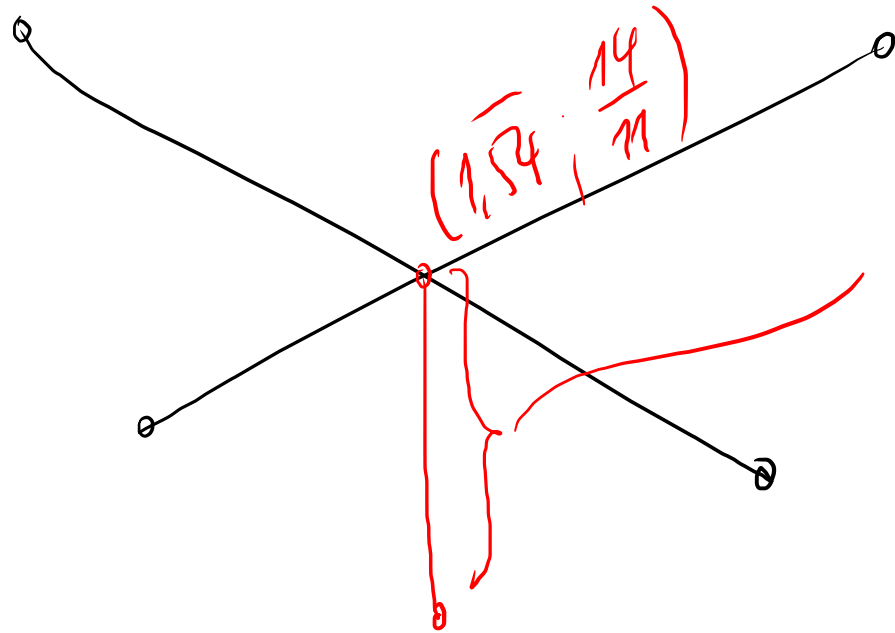
$$-6/12 = -0.5$$



$$S = \left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right) \right) = \left(\frac{1}{12}, -2 \right)$$



$$f(x) = -0,6x + 2,2$$



$$(1,54, \frac{14}{11})$$

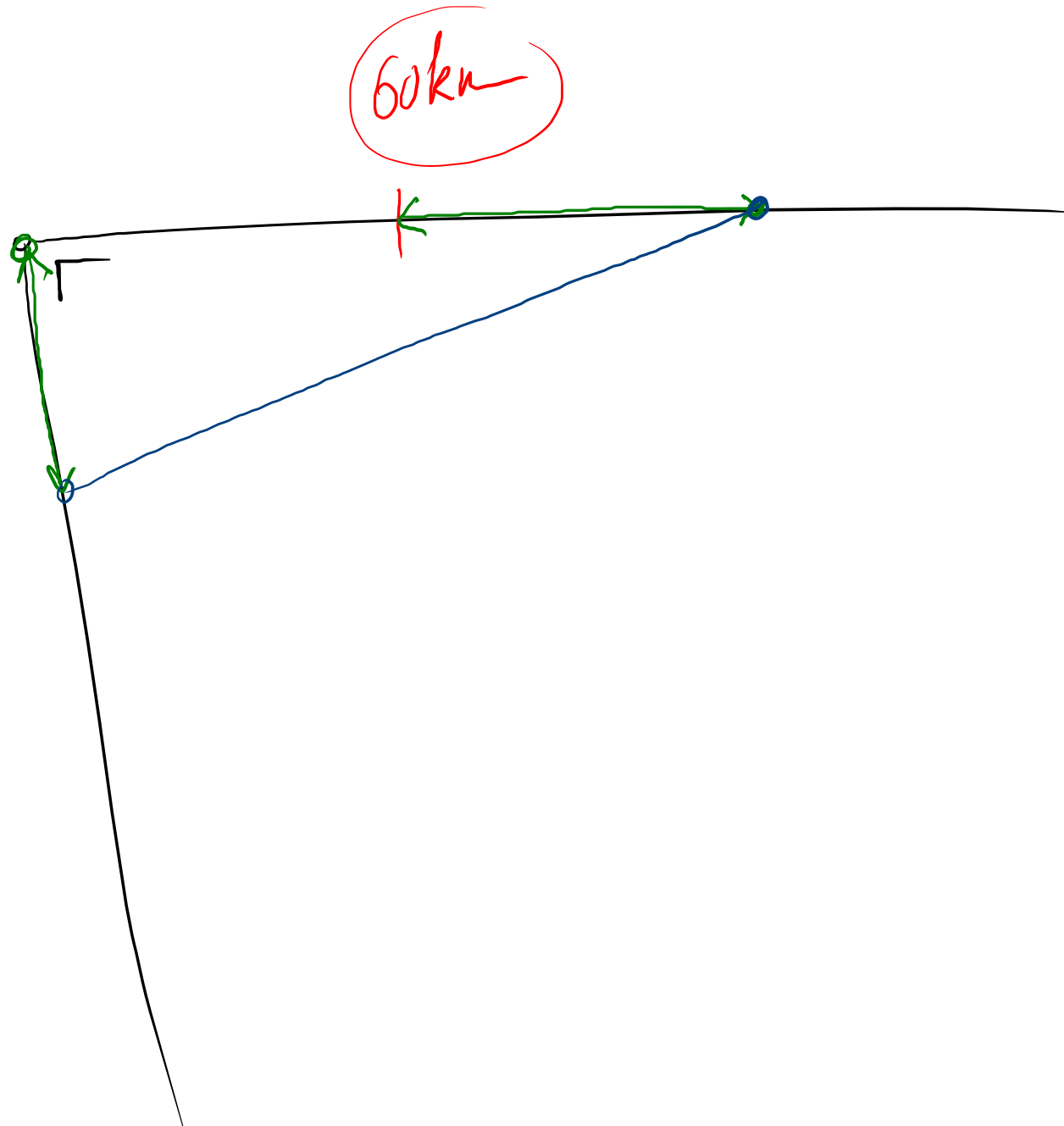
$$x = 1,54$$

$$f(1,54)$$

$$= -0,6 \cdot 1,54 + 2,2$$

$$14/11$$

14h⁰⁰ : t=0



$$\vec{F} = m \cdot \vec{a}$$

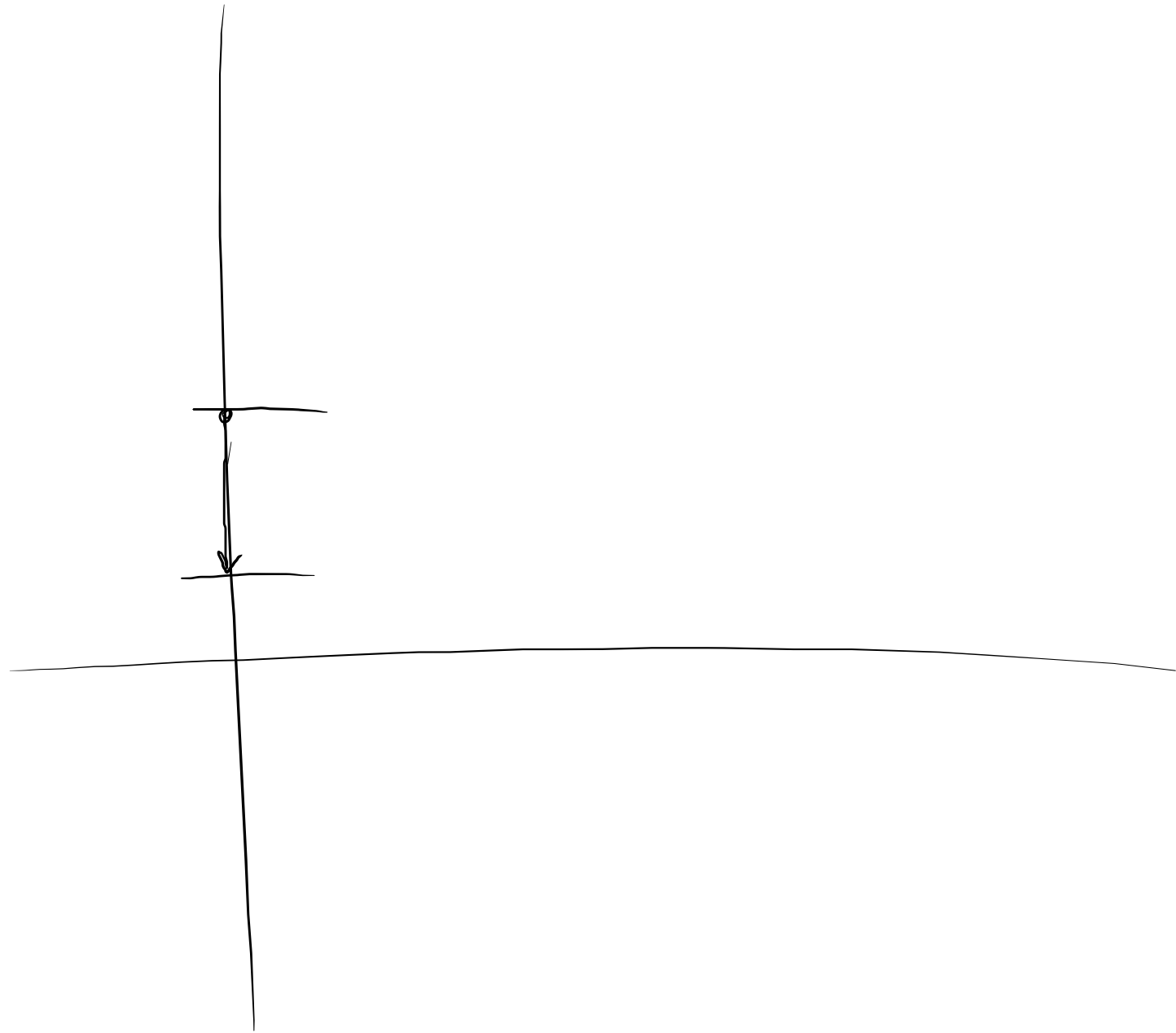
$$m\vec{g} = m\vec{a}$$

$$\vec{g} = \vec{a}$$

$$a = -g$$

$$v = -gt + v_0$$

$$x = -\frac{1}{2}gt^2 + v_0t$$

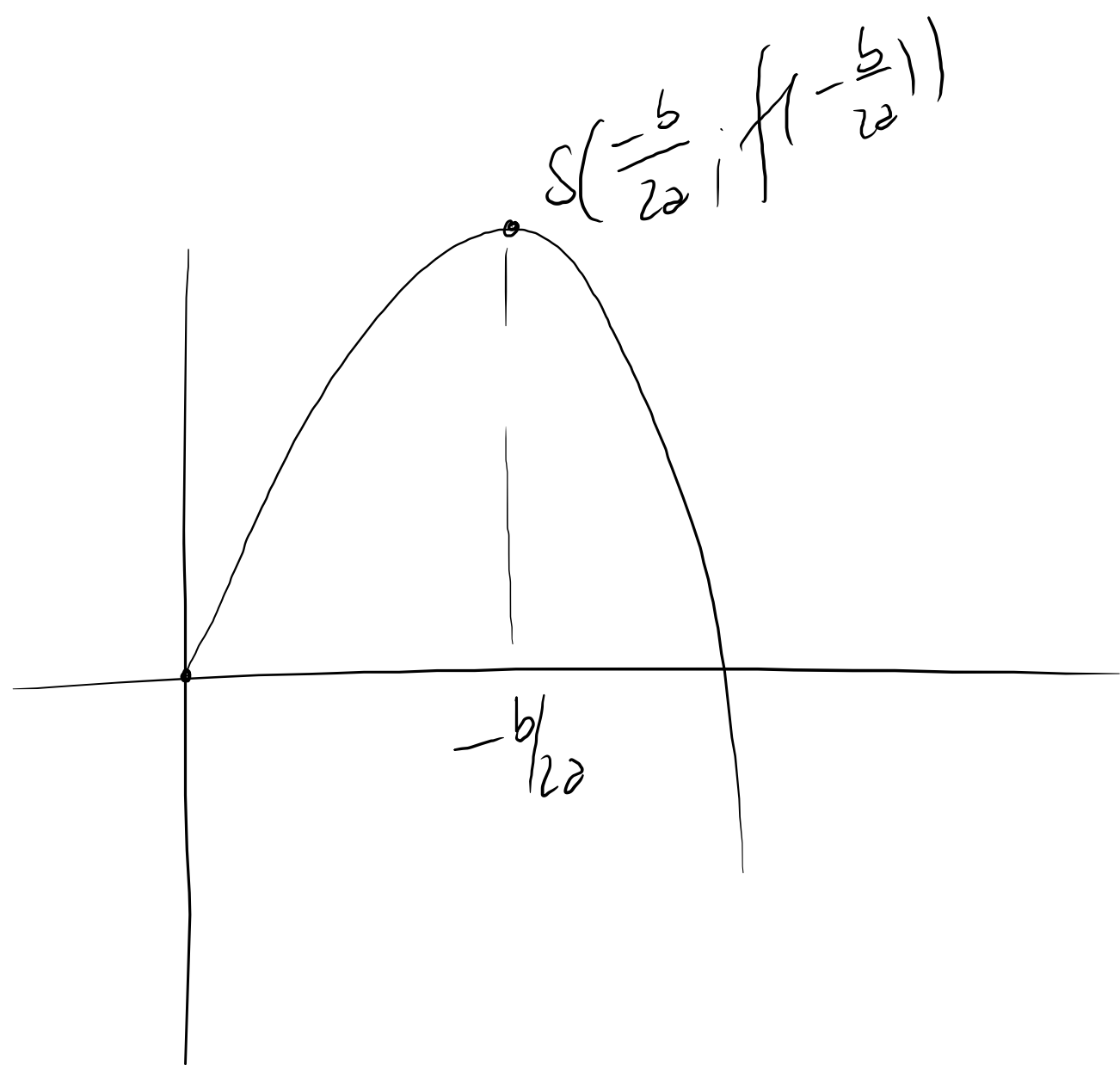


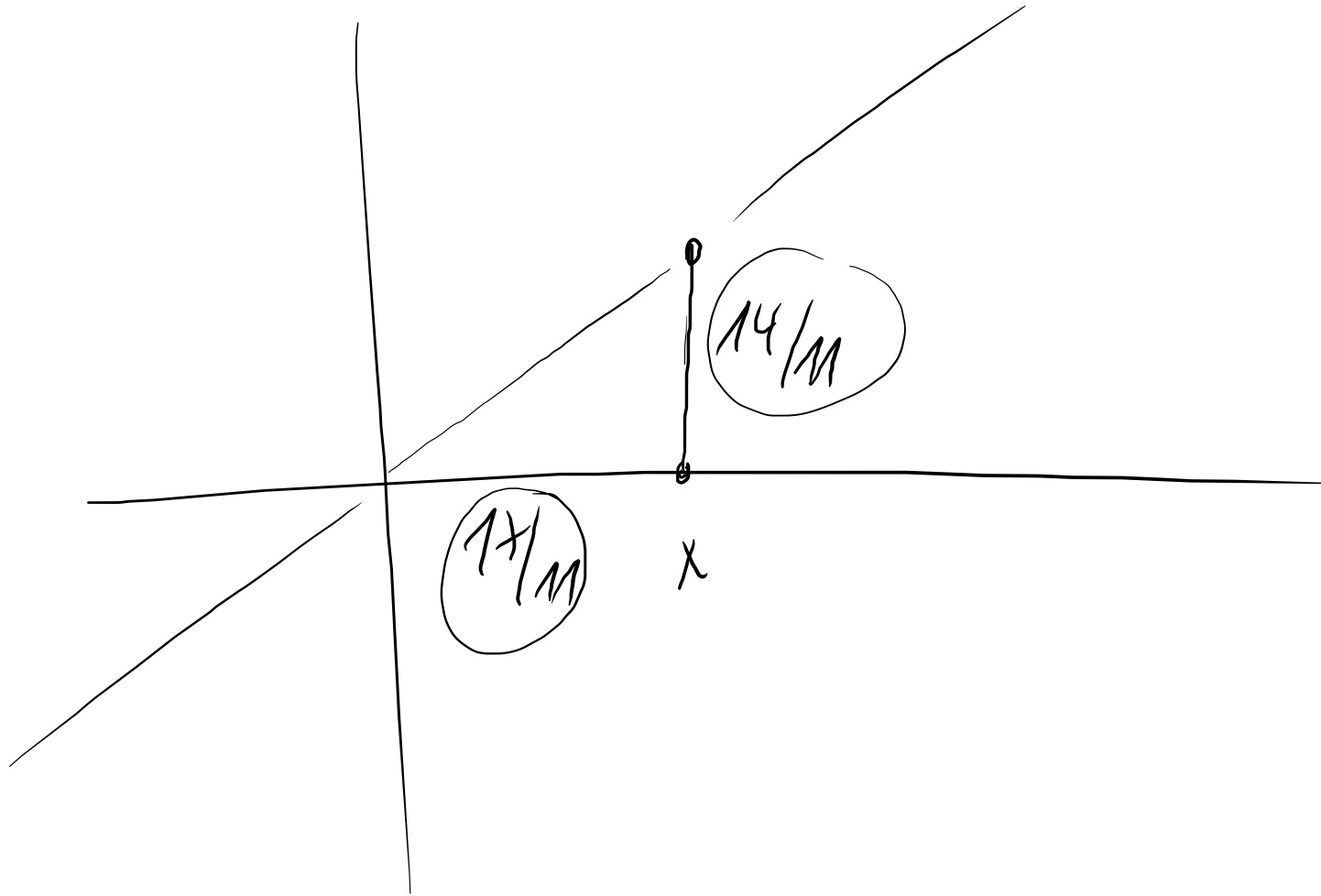
$$-\frac{1}{2}gt^2 + v_0t$$

0



120 m/s





$$\frac{1,27}{1,54}$$

$$8x^2 - 10x + 3$$

$$\frac{-b}{2a} = \frac{10}{16} = \frac{5}{8} \approx 0,675$$

$$8 \cdot 0,675^2 - 10 \cdot 0,675 + 3$$

$$\cancel{8} \cdot \frac{25}{64} - 6,75 + 3$$

$$3,125 - 6,75 + 3$$

$$-0,625$$

