

Ex 3.19

$$f(x) = 8x + 11$$

a)  $f(2) = 8 \cdot 2 + 11 = \underline{27}$

$$f(0) = 8 \cdot 0 + 11 = \underline{11}$$

$$f\left(\frac{1}{2}\right) = 8 \cdot \frac{1}{2} + 11 = 4 + 11 = \underline{15}$$

$$f(2k) = 8 \cdot 2k + 11 = \underline{16k + 11}$$

b)  $f(x) = 19 \Leftrightarrow 8x + 11 = 19 \Leftrightarrow 8x = 8 \Leftrightarrow x = 1 \Rightarrow S = \underline{\{1\}}$

$$f(x) = 5 \Leftrightarrow 8x + 11 = 5 \Leftrightarrow 8x = -6 \Leftrightarrow x = -\frac{6}{8} = -\frac{3}{4} \Rightarrow S = \underline{\left\{-\frac{3}{4}\right\}}$$

$$f(x) = 0 \Leftrightarrow 8x + 11 = 0 \Leftrightarrow 8x = -11 \Leftrightarrow x = -\frac{11}{8} \Rightarrow S = \underline{\left\{-\frac{11}{8}\right\}}$$

c)  $(2; 13) \notin f$  car  $13 \neq 8 \cdot 2 + 11 = 27$

$$(1; -3) \notin f \text{ car } -3 \neq 8 \cdot 1 + 11 = 19$$

$$(-5; 6) \notin f \text{ car } 6 \neq 8 \cdot (-5) + 11 = -29$$

$$(-11; 0) \notin f \text{ car } 0 \neq 8 \cdot (-11) + 11 = -77$$

mais  $(2; 27) \in f$  car  $27 = 8 \cdot 2 + 11 \checkmark$

d)  $(2; \underline{27})$  car  $f(2) = 8 \cdot 2 + 11 = 27$

$$\left(\frac{3}{5}; \underline{\frac{79}{5}}\right) \text{ car } f\left(\frac{3}{5}\right) = 8 \cdot \frac{3}{5} + 11 = \frac{24}{5} + 11 = \frac{24}{5} + \frac{55}{5} = \frac{79}{5}$$

$$\begin{aligned} \left(\underline{-\frac{3}{5}}; \underline{\frac{31}{5}}\right) \text{ car } f(x) = \frac{31}{5} &\Leftrightarrow 8x + 11 = \frac{31}{5} \\ &\Leftrightarrow 8x = \frac{31}{5} - 11 = -\frac{24}{5} \\ &\Leftrightarrow x = -\frac{24}{5} \cdot \frac{1}{8} = -\frac{3}{5} \end{aligned}$$