

Analyse – Révision 3**Exercice 1**

Calculer les limites suivantes.

a) $\lim_{x \rightarrow 1} \frac{-2x^2 - x + 3}{x - 1}$

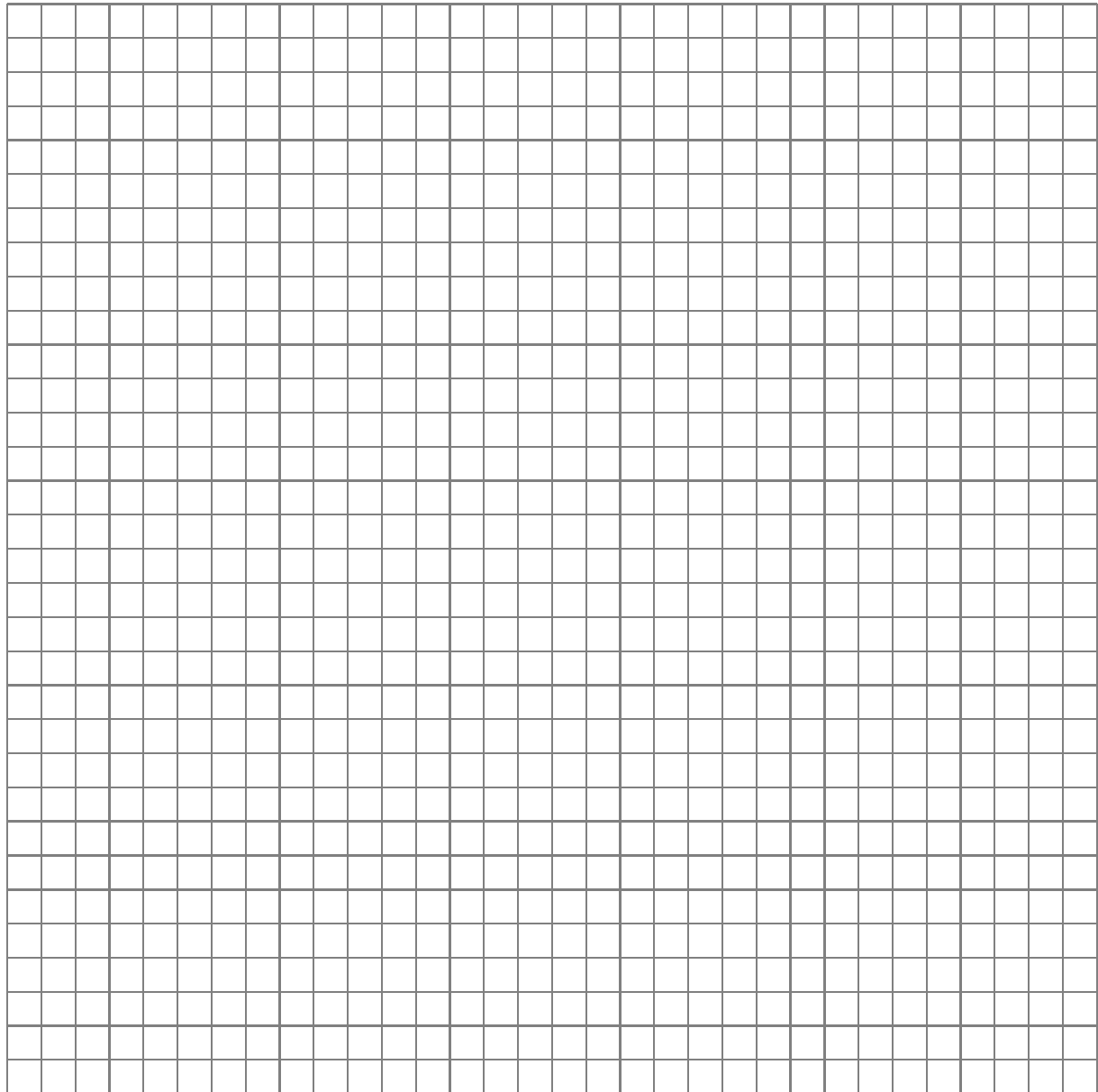
d) $\lim_{x \rightarrow 1} \frac{x^2 + 5x + 1}{x^2 + x - 2}$

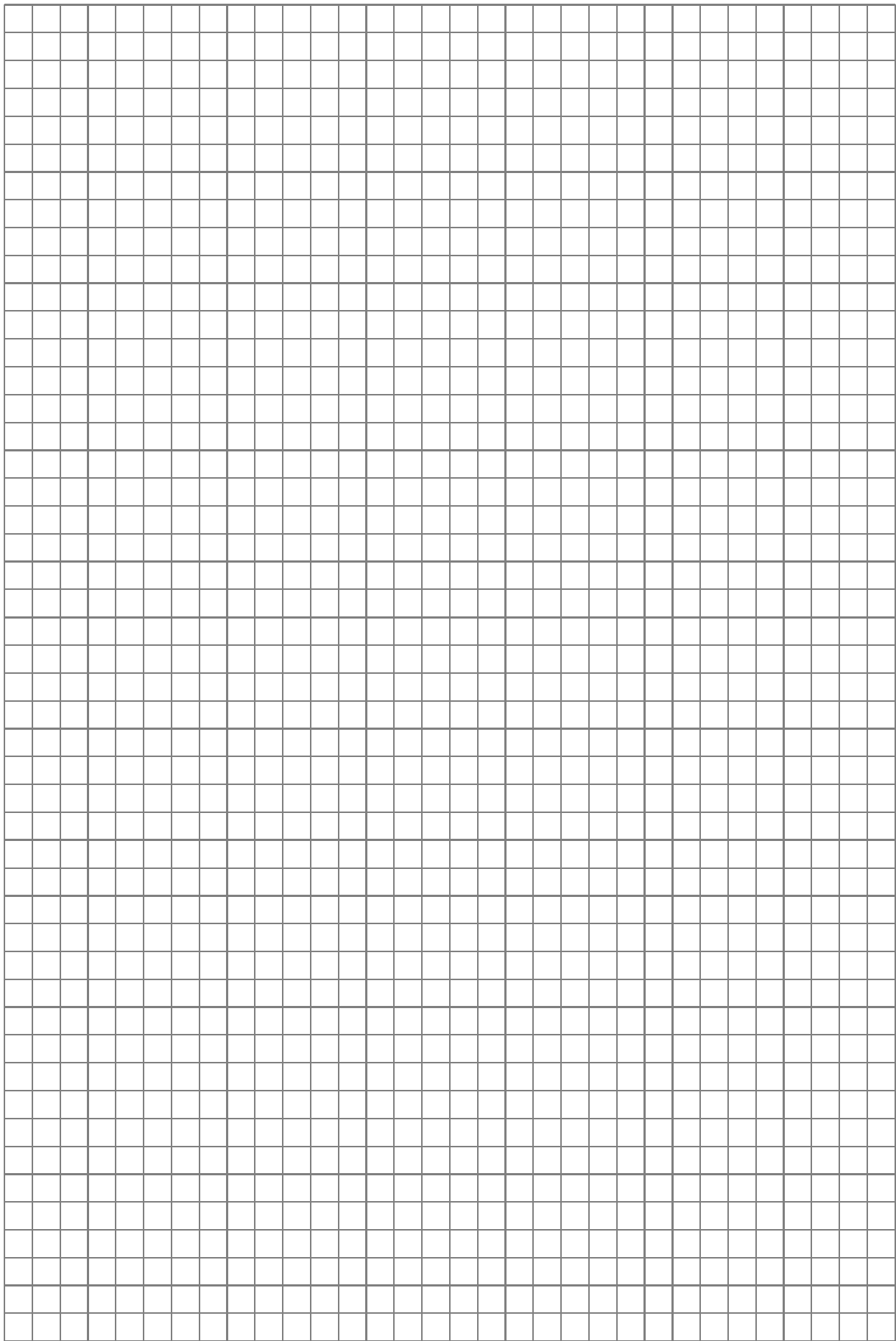
b) $\lim_{x \rightarrow -4} \frac{x^2 + 4x}{-x^2 - 2x + 8}$

e) $\lim_{x \rightarrow 0} \left(\frac{1}{x^2 + x} - \frac{1}{x} \right)$

c) $\lim_{x \rightarrow 1} \frac{x^2 + 5x + 1}{x^2 + x - 2}$

f) $\lim_{x \rightarrow 0} \left(\frac{1}{x - 1} - \frac{2}{x^2 - 1} \right)$





Exercice 2

Calculer les limites suivantes.

a) $\lim_{x \rightarrow 2} \frac{x^2 - 4}{\sqrt{x} - \sqrt{2}}$

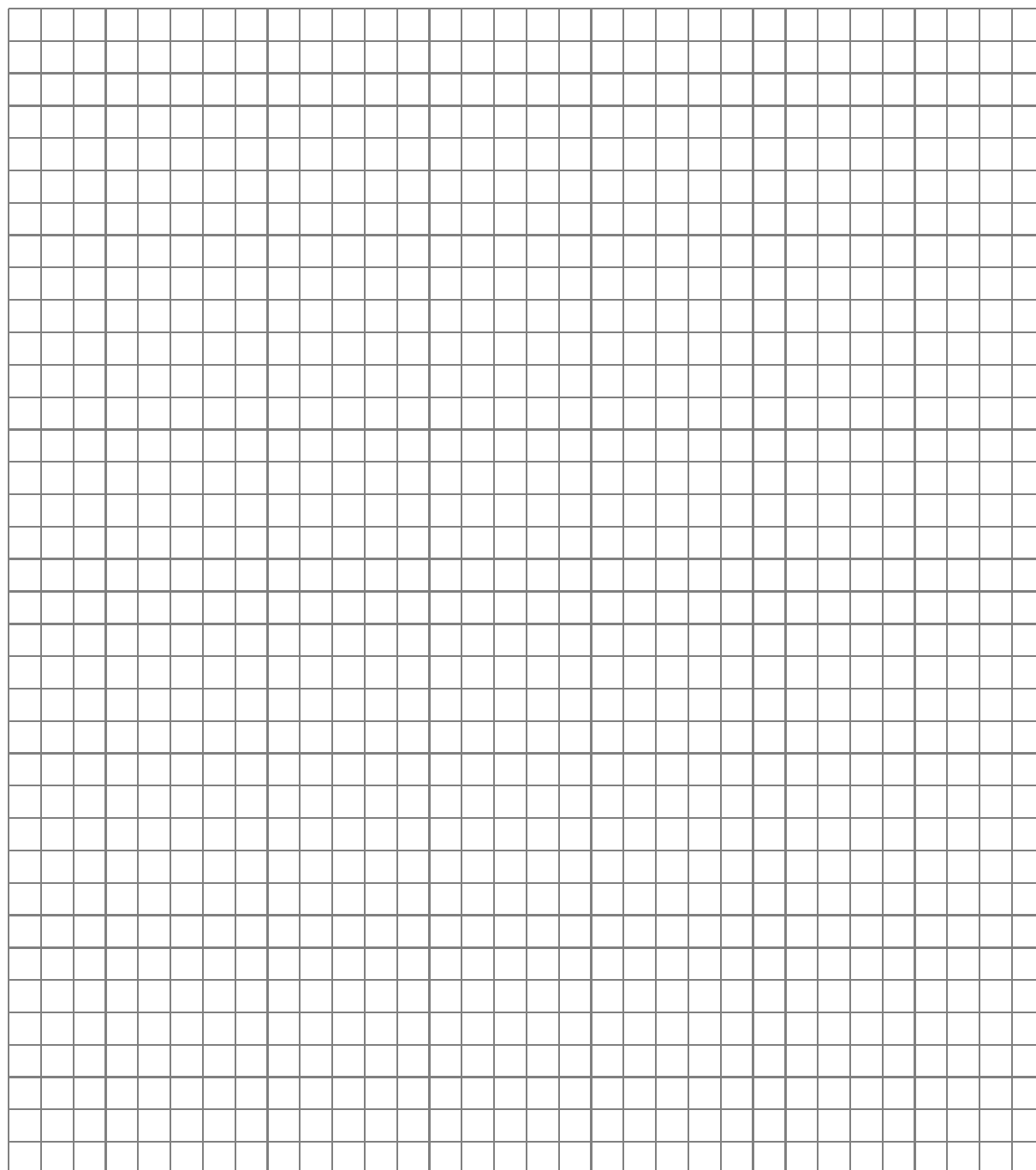
d) $\lim_{x \rightarrow 1} \frac{\sqrt{x} - 1}{x - 1}$

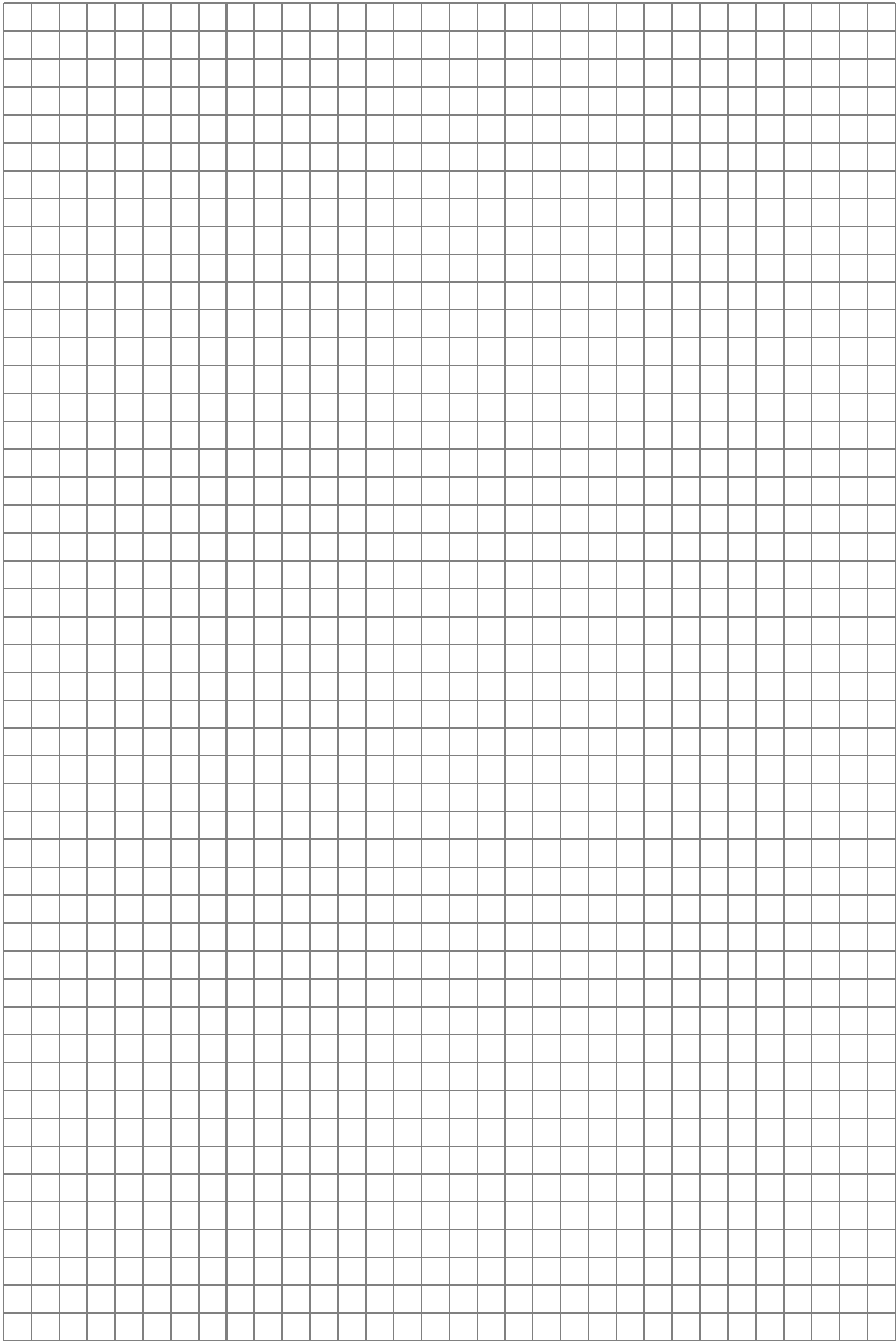
b) $\lim_{x \rightarrow 0} \frac{1 - \sqrt{1 - x}}{x}$

e) $\lim_{x \rightarrow 2} \frac{\sqrt{x + 2} - \sqrt{3x - 2}}{x - 2}$

c) $\lim_{x \rightarrow 1} \frac{\sqrt{x + 3} - 2}{x - 1}$

f) $\lim_{x \rightarrow 4} \frac{\sqrt{3x + 4} - 4}{x - 4}$





Exercice 3

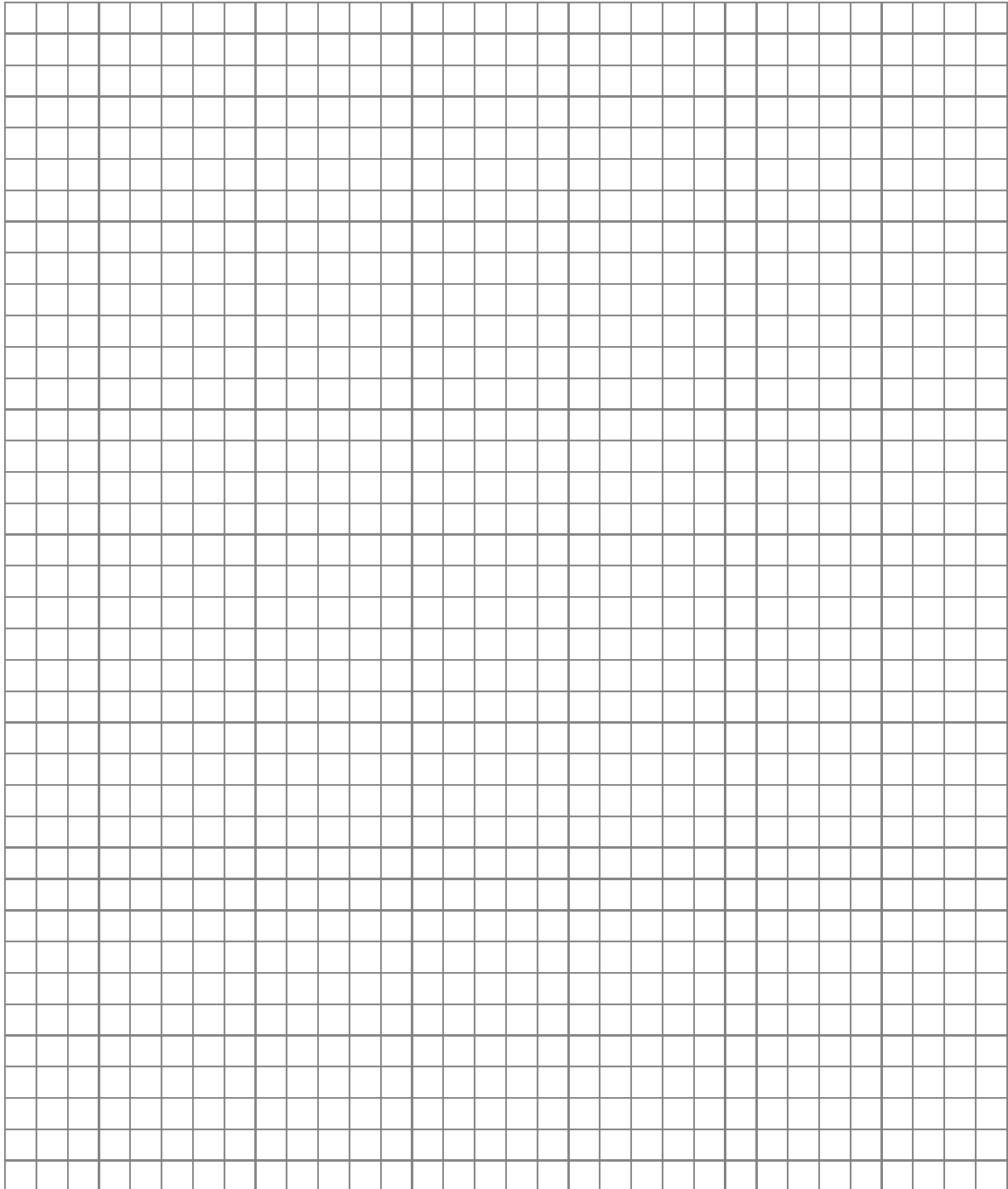
Calculer les limites suivantes.

a) $\lim_{x \rightarrow +\infty} \frac{36x^2 - 15x + 200}{(3x - 2)^2}$

c) $\lim_{x \rightarrow -\infty} \frac{4x^2 - x + 3}{2x - 1}$

b) $\lim_{x \rightarrow -\infty} \frac{1000x^3 - 50x^2 + 7}{x^4 + x^2 + x + 1}$

d) $\lim_{x \rightarrow -\infty} \frac{5x^2 + 4x - 1}{x + 2}$



Exercice 4

Soit $f(x) = \frac{x^2 + x - 6}{|x - 2|}$.

Calculer $\lim_{x \rightarrow 2^-} f(x)$, $\lim_{x \rightarrow 2^+} f(x)$ et $\lim_{x \rightarrow 2} f(x)$.

