

## Inéquations réductibles au second degré

### Résoudre

$$1) \frac{x+7}{x+1} - \frac{x+2}{x} \geq 1$$

$$2) \frac{x+3}{x-1} - \frac{x-2}{x+1} \geq -1$$

$$3) \frac{2x+4}{1-x} - \frac{x+4}{x-3} \geq 1$$

$$4) \frac{(4-x^2)(-x^2+x-5)}{4x^2-12x+9} \geq 0$$

$$5) \frac{(-x^2+x-10)(2x^2+5x-12)}{3(3-2x)x(-2x^2+5x+3)} \geq 0$$

$$6) \frac{(x-2)(-x^2+6x-8)(x^2-5x+6)}{(1-2x)(x^2-4x+3)(3x^2-4x+1)} \leq 0$$

$$7) 5 < \frac{4-x}{2x}$$

$$8) \frac{x^2-4}{2x^2-7x+3} \geq 0$$

$$9) 2x > \frac{4}{x-1}$$

$$10) \frac{4x^2-5x+1}{4x^2-1} \leq 0$$

### Solutions:

$$1) S = ]-1, 0[ \cup [1, 2]$$

$$2) S = \leftarrow, -7] \cup ]-1, 0] \cup ]1, \rightarrow$$

$$3) S = \left[ \frac{1}{8}(3-\sqrt{217}), 1[ \cup \left[ \frac{1}{8}(3+\sqrt{217}), 3[ \right.$$

$$4) S = \leftarrow, -2] \cup [2, \rightarrow$$

$$5) S = [-4, -\frac{1}{2}[ \cup ]0, 3[$$

$$6) S = ]\frac{1}{3}, \frac{1}{2}[ \cup [2, 4]$$

$$7) S = ]0, \frac{4}{11}[$$

$$8) S = \leftarrow, -2] \cup ]\frac{1}{2}, 2] \cup ]3, \rightarrow$$

$$9) S = ]-1, 1[ \cup ]2, \rightarrow$$

$$10) S = ]-\frac{1}{2}, \frac{1}{4}] \cup ]\frac{1}{2}, 1]$$