



MOCK
EXAM

Équations et inéquations

- ▶ A result without procedure or with a wrong procedure **does not bring any point.**
- ▶ Sometimes the procedure can be replaced by a drawing.
- ▶ A result half erased or hardly readable **does not bring any point.**
- ▶ **No question** must be asked during the exam.
- ▶ It is forbidden to **share material** during the exam.

Type of equation	Result obtained	Solution to give
equation with x only	$0 = 0$	$S = \mathbb{R}$
	$0 = 1$	$S = \emptyset$
	$2x = 3x$	$x = 0$
system with x and y	$0 = 0$	$S \in \mathbb{R}^2$
	$0 = 1$	$S = \emptyset$
inequation with x only	$0 \geq 0$	$S = \mathbb{R}$
	$0 > 0$	$S = \emptyset$
	$0 \geq 1$	$S = \emptyset$
	$0 \leq 1$	$S = \mathbb{R}$

Exercice 1 Résoudre les équations suivantes :

a) $17x = 119$	b) $3.2x - 7 = 3.2x - 7$
c) $16x + 11 = 9x + 60$	d) $7x + 6 = 9x + 5 - 2x$
e) $x + (x + 1) + (x - 2) = x - 1$	f) $6x + 42 = 7x + 73$
g) $8x + 9 - 3x = 7 + 5x - 2$	h) $\frac{x}{3} + \frac{16}{6} = \frac{5x+1}{3}$
i) $\frac{1}{3} - \frac{x+1}{4} = 2x - \frac{3x+1}{2}$	j) $\frac{5-x}{4} - \frac{x}{2} = x - \frac{2x-1}{3}$

Exercice 2 Résoudre les systèmes d'équations suivants :

a) $\begin{cases} 2x - y = 6 \\ x + y = 6 \end{cases}$	b) $\begin{cases} 2x - y = 5 \\ 3x + y = 10 \end{cases}$
c) $\begin{cases} 2x - 3y = 0 \\ 3x + y = 0 \end{cases}$	d) $\begin{cases} 2x - 3y = -1 \\ x + 4y = 5 \end{cases}$
e) $\begin{cases} 2x - 3y = 13 \\ 4x + 3y = -1 \end{cases}$	f) $\begin{cases} x + 4y = 3 \\ 4x + 2y = 5 \end{cases}$
g) $\begin{cases} 3x - 5y = 6 \\ 3x + 4y = -3 \end{cases}$	h) $\begin{cases} 2x - 7y = 6 \\ x + 7y = 6 \end{cases}$
i) $\begin{cases} 7x - 2y = 8 \\ 5x - 3y = 1 \end{cases}$	j) $\begin{cases} 7x - 5y = -2 \\ 2x + 3y = -5 \end{cases}$

Exercice 3 Résoudre les inéquations suivantes :

a) $-2 < x \leq 4$	b) $-3 \geq x > -5$
c) $3x - 2 > 14$	d) $2x + 5 \leq 7$
e) $-2 - 3x \geq 2$	f) $3 - 5x < 11$
g) $2x + 5 < 3x - 7$	h) $x - 8 > 5x + 3$
i) $\frac{5x}{6} + \frac{3}{2} \geq \frac{x}{3} - 1$	j) $\frac{x}{2} - (x - 1) \geq \frac{2-x}{2}$