

Nom i llinatges: _____

Curs: _____ Data: _____

En les operacions d'equacions amb fraccions de diferents denominadors, el pas a seguir són:

$$\textcircled{1} \frac{x}{3} + \frac{5}{4} - \frac{7x}{6} = \frac{4x}{3} + \frac{5}{2} - \frac{11x}{12} \textcircled{2}$$

1. Trobam denominador comú mitjançant **mcm**:

$\begin{array}{c c} 2 & 2 \\ \hline 1 & \end{array}$	$\begin{array}{c c} 3 & 3 \\ \hline 1 & \end{array}$	$\begin{array}{c c} 4 & 2 \\ \hline 2 & 2 \\ \hline 1 & \end{array}$	$\begin{array}{c c} 6 & 2 \\ \hline 3 & 3 \\ \hline 1 & \end{array}$	$\begin{array}{c c} 12 & 2 \\ \hline 6 & 2 \\ \hline 3 & 3 \\ \hline 1 & \end{array}$
Prof. Aina E.	3	2 ²	2 · 3	2 ² · 3

$$\text{mcm}(2,3,4,6,12) = 2^2 \cdot 3 = 4 \cdot 3 = 12$$

2. Calculam cada terme aplicant el denominador comú:

$$\textcircled{1} \frac{x}{3} + \frac{5}{4} - \frac{7x}{6} = \frac{4x}{3} + \frac{5}{2} - \frac{11x}{12} \textcircled{2}$$

Diagram showing the conversion of each term to a denominator of 12:

- $\frac{x}{3} = \frac{4x}{12}$ (multiplied by 4)
- $\frac{5}{4} = \frac{15}{12}$ (multiplied by 3)
- $\frac{7x}{6} = \frac{14x}{12}$ (multiplied by 2)
- $\frac{4x}{3} = \frac{16x}{12}$ (multiplied by 4)
- $\frac{5}{2} = \frac{30}{12}$ (multiplied by 6)
- $\frac{11x}{12} = \frac{11x}{12}$ (multiplied by 1)

3. Eliminam el denominador comú i trobam el valor d'x:

$$4x + 15 - 14x = 16x + 30 - 11x$$

$$4x - 14x - 16x + 11x = 30 - 15$$

$$-15x = 15$$

$$x = \frac{15}{-15} \rightarrow x = -1$$



Ara tu! Resol les següents equacions de primer grau amb fraccions:

a) $\frac{x}{3} + \frac{5}{4} - \frac{7x}{6} = \frac{4x}{3} + \frac{5}{2} - \frac{11x}{12}$

x =

f) $\frac{6x}{5} = \frac{x+1}{2}$

x =

b) $\frac{x}{4} - \frac{x}{3} + 2 = 1 - \frac{x}{5}$

x =

g) $\frac{3x}{4} + \frac{2x}{5} + \frac{x}{10} = 1$

x =

c) $\frac{3x}{2} + \frac{1}{3} = 2$

x =

h) $\frac{x}{2} + \frac{1}{3} = \frac{x}{3} + \frac{1}{4}$

x =

d) $\frac{2x}{4} + \frac{5}{3} = 2$

x =

i) $\frac{3x}{2} - \frac{1}{5} = \frac{3x}{5} - \frac{1}{5}$

x =

e) $\frac{x}{3} + \frac{3x}{2} = 1$

x =

j) $\frac{x}{2} - \frac{5}{6} = \frac{x}{3} - \frac{x}{5} + 1$

x =

Recordeu les **operacions amb signes**:

$(-) \cdot (-) = (+) \rightarrow -1 \cdot (-2) = +2$

$(+) \cdot (+) = (+) \rightarrow +1 \cdot (+2) = +2$

$(-) \cdot (+) = (-) \rightarrow -1 \cdot (+3) = -3$

$(+) \cdot (-) = (-) \rightarrow +1 \cdot (-3) = -3$

$- (-) = (+) \rightarrow - (-5) = +5$

$+ (+) = (+) \rightarrow +(+5) = +5$

$- (+) = (-) \rightarrow -(+6) = -6$

$+ (-) = (-) \rightarrow +(-6) = -6$