

Módulo 13 Tercero Medio

$$\begin{aligned} 1) \quad 5(2x - 4(3x + 1)) &= -10x + 20 \\ 5(2x - 12x - 4) &= -10x + 20 \\ 10x - 60x - 20 &= -10x + 20 \\ 10x - 60x + 10x &= 20 + 20 \\ -40x &= 40 \quad | : -40 \\ \boxed{x = -1} \end{aligned}$$

$$\begin{aligned} 2) \quad x - 13 &= 4(3x - 4(x - 2)) \\ x - 13 &= 4(3x - 4x + 8) \\ x - 13 &= 12x - 16x + 32 \\ x - 12x + 16x &= 32 + 13 \\ 5x &= 45 \quad | : 5 \\ \boxed{x = 9} \end{aligned}$$

$$\begin{aligned} 3) \quad 3(6x - 5(x - 3)) &= 15 - 3(x - 5) \\ 3(6x - 5x + 15) &= 15 - 3x + 15 \\ 18x - 15x + 45 &= 15 - 3x + 15 \\ 18x + 3x - 15x &= 15 + 15 - 45 \\ 6x &= -15 \quad | : 6 \\ x &= \frac{-15}{6} \quad | : 3 \\ \boxed{x = \frac{-5}{2}} \end{aligned}$$

$$\begin{aligned} 4) \quad 2x + 3(x - 3) &= 6(2x - 3(x - 5)) \\ 2x + 3x - 9 &= 6(2x - 3x + 15) \\ 5x - 9 &= 12x - 18x + 90 \\ 5x + 6x &= 90 + 9 \\ 11x &= 99 \quad \Rightarrow \boxed{x = 9} \end{aligned}$$

$$f) x + 4[3 - 2(x-1)] = 5[x - 3(2x-4)] + 1$$

$$x + 4[3 - 2x + 2] = 5[x - 6x + 12] + 1$$

$$x + 12 - 8x + 8 = 5x - 30x + 60 + 1$$

$$-7x + 20 = -25x + 61$$

$$-7x + 25x = 61 - 20$$

$$18x = 41 \quad | :18$$

$$\boxed{x = \frac{41}{18}}$$

$$g) 3 - 2x + 4[3 + 5(x+1)] = 10x - 7$$

$$3 - 2x + 4[3 + 5x + 5] = 10x - 7$$

$$3 - 2x + 12 + 20x + 20 = 10x - 7$$

$$-2x + 20x - 10x = -7 - 20 - 12 - 3$$

$$8x = 42$$

$$x = \frac{42}{8} \quad | :2$$

$$\boxed{x = \frac{21}{4}}$$