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$$\begin{aligned} \text{a) } (3x-2)(5-x) - 4x(x+6) &= 15x - 10 - 3x^2 + 2x - 4x^2 - 24x \\ &= -7x^2 - 7x - 10 \end{aligned}$$

$$\begin{aligned} \text{b) } -3(2-3x)(6-2x) &= -3(12 - 4x - 12x + 4x^2) \\ &= -36 + 12x + 36x - 12x^2 \\ &= -12x^2 + 48x - 36 \end{aligned}$$

$$\text{c) } 2(x+3)(5x+1) = 2(5x^2 + x + 15x + 3) = 10x^2 + 32x + 6$$

$$\text{d) } -2(x^2+1)(x-2) = -2(x^3 - 2x^2 + x - 2) = -2x^3 + 4x^2 - 2x + 4.$$