

Correct.

$$\begin{array}{r} x^2 + 6x + 12 \\ x - 2 \overline{) x^3 + 4x^2 + 0x - 10} \\ \underline{-(x^3 - 2x^2)} \\ 6x^2 + 0x \\ \underline{-(6x^2 - 12x)} \\ 12x - 10 \\ \underline{-(12x - 24)} \\ 14 \end{array}$$