The key is to use long division to solve each problem.

$(x^2 + 4x + 6) \div (x + 2)$ *now looks like this* $x + 2\overline{\smash{\big)}\,x^2 + 4x + 6}$

Now just use long division to figure out the answer!

Now multiply **x** by the divisor and subtract: $x \cdot x = x^2$; $x \cdot 2 = 2x$

Now multiply **3** by the divisor and subtract: $3 \cdot x = 3x$; $3 \cdot 2 = 6$

$$
\begin{array}{r}
X + 3 \\
x + 2 \overline{\smash{\big)}\, x^2 + 5x + 6} \\
-\ \underline{x^2 + 2x} \downarrow \\
3x + 6 \\
-\ \underline{3x + 6} \\
0
\end{array}
$$

Solve by dividing each term.

$8x^2 + 6x + 2 \ \div \ x + 2 \ = \ x + 2\overline{\smash{\big)}\,8x^2 + 6x + 2}$

$4x^2 - 4x + 8 \ \div \ x + 2 \ =$