

- Let $P(x) = 2x^3 - 8x + 12$. Use synthetic division to compute $P(-2)$.

$P(-2)$ IS THE REMAINDER WHEN $P(x)$
IS DIVIDED BY $x + 2$.

INCLUDING
THAT ZERO
IS
NECESSARY!

$$\begin{array}{r|rrrr}
 -2 & 2 & 0 & -8 & 12 \\
 & & -4 & 8 & 0 \\
 \hline
 & 2 & -4 & 0 & 12
 \end{array}$$

$$P(-2) = 12$$

NOTICE THAT WE FOUND

$$\frac{2x^3 - 8x + 12}{x + 2} = 2x^2 - 4x + \frac{12}{x + 2}$$