

Week 8

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1.

$$\begin{array}{r}
 x^2 - 2x + 1 \\
 x + 2 \overline{) \quad x^3 \quad - 3x + 2} \\
 \underline{-x^3 - 2x^2} \\
 -2x^2 - 3x \\
 \underline{2x^2 + 4x} \\
 x + 2 \\
 \underline{-x - 2} \\
 0
 \end{array}
 \tag{1}$$

2.

$$\begin{array}{r}
 4 \left| \begin{array}{ccccc} 4 & 0 & 2 & 0 & 8 \\ & 16 & 64 & 264 & 1056 \\ \hline & 4 & 16 & 66 & 264 & 1064 \end{array} \right. \\
 4x^3 + 16x^2 + 66x + 264 + \frac{1064}{x-4}
 \end{array}
 \tag{2}$$

3.

$$\begin{array}{r}
 8x^3 - 23x^2 + 78x - 232 \\
 x + 3 \overline{) \quad 8x^4 \quad + x^3 \quad + 9x^2 \quad + 2x} \\
 \underline{-8x^4 - 24x^3} \\
 -23x^3 + 9x^2 \\
 \underline{23x^3 + 69x^2} \\
 78x^2 + 2x \\
 \underline{-78x^2 - 234x} \\
 -232x \\
 \underline{232x + 696} \\
 696
 \end{array}
 \tag{3}$$