

$$\textcircled{2} \quad x^2 - x + 1 - \frac{2}{x+1}$$

$$\textcircled{4} \quad 2x^2 - 5x + \frac{7}{2} - \frac{9/2}{2x+1}$$

$$\textcircled{6} \quad x^2 - 3x + 5$$

Nov 18-8:36 AM

⑤

$$\begin{array}{r}
 \overline{) x^4 - 2x^3 + 3x^2 - 4x + 6} \\
 \underline{-(x^4 + 2x^3 - 1x^2)} \\
 - 4x^3 + 4x^2 - 4x \\
 \underline{-(-4x^3 - 8x^2 + 4x)} \\
 12x^2 - 8x + 6 \\
 \underline{-(12x^2 + 24x - 12)} \\
 - 32x + 18
 \end{array}$$

$x^2 - 4x + 12$

Nov 18-8:42 AM

④

$$2x+1 \overline{) 4x^3 - 8x^2 + 2x - 1} \quad 2x^2 - 5x + \frac{7}{2} + \frac{-\frac{9}{2}}{2x+1}$$

÷ by 1st term

* all terms

- all terms

↓ next terms

$$\begin{array}{r} 4x^3 - 8x^2 + 2x - 1 \\ - (4x^3 + 2x^2) \\ \hline -10x^2 + 2x \\ - (-10x^2 - 5x) \\ \hline 7x - 1 \\ - (7x + \frac{7}{2}) \\ \hline -\frac{9}{2} \end{array}$$

Nov 18-8:47 AM

Synthetic Division

- Can only be done if dividing by a linear equation ($ax+b$)
- set linear equation = to zero and solve for x
- bring down 1st term
- multiply
- *add*
- continue w/ multiplication and addition until finished.

Nov 11-7:00 PM

ex divide

$$(2x^3 + 6x^2 - 14x + 9) \div (x-1)$$

$$\begin{array}{r} 1 \overline{) 2 \quad 6 \quad -14 \quad 9} \\ \quad +2 \quad +8 \quad -6 \\ \hline 2 \quad 8 \quad -6 \quad \boxed{3} \end{array}$$

$x-1=0$
 $+1 \quad +1$
 $x=1$

$2x^2 + 8x - 6 + \frac{3}{x-1}$ remainder

Nov 18-9:00 AM

ex divide

$$(6x^3 + 7x^2 - x + 26) \div (x-3)$$

$$\begin{array}{r} 3 \overline{) 6 \quad 7 \quad -1 \quad 26} \\ \quad +18 \quad 75 \quad 222 \\ \hline 6 \quad 25 \quad 74 \quad \boxed{248} \end{array}$$

$x-3=0$
 $x=3$

$6x^2 + 25x + 74 + \frac{248}{x-3}$ remainder

Nov 18-9:05 AM

ex divide

$$(5x^3 + 6x + 8) \div (x+2)$$

$$\begin{array}{r} -2 \overline{) 5 \quad 0 \quad 6 \quad 8} \\ \underline{5 \quad -10 \quad 20 \quad -52} \\ 5 \quad -10 \quad 26 \quad \boxed{-44} \end{array}$$

$$\begin{aligned} x+2 &= 0 \\ x &= -2 \end{aligned}$$

$$5x^2 - 10x + 26 - \frac{44}{x+2}$$

Nov 18-9:08 AM

HW
p223
7-12 all

Nov 18-9:12 AM