

1.4 Dividing Polynomials

Day 5

3/30/15

Mar 26-8:11 AM

Dividing using Synthetic Division:

- Step 1** Reverse the sign of +2. Write the coefficients of the polynomial.
- Step 2** Bring down the first coefficient.
- Step 3** Multiply the coefficient by the divisor. Add to the next coefficient.
- Step 4** Continue multiplying and adding through the last coefficient.

Mar 26-8:11 AM

$$(x^3 - 14x^2 + 51x - 54) \div (x + 2)$$

$$\begin{array}{r|rrrr} -2 & 1 & -14 & +51 & -54 \\ & \downarrow & -2 & +32 & -166 \\ \hline & 1 & -16 & +83 & -220 \end{array}$$

$$x^2 - 16x + 83 \text{ R} - 220$$

Mar 30-6:50 AM

$$(x^3 + x^2 - 14x - 27) \div (x + 3)$$

$$\begin{array}{r|rrrr} -3 & +1 & +1 & -14 & -27 \\ & \downarrow & -3 & +6 & +24 \\ \hline & 1 & -2 & -8 & -3 \end{array}$$

$$x^2 - 2x - 8 \text{ R} - 3$$

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

$$\begin{array}{r} +2 \overline{) 1 \quad -6 \quad 3 \quad -2} \\ \underline{ 1 \quad -4 \quad -5 \quad -2} \\ 1 \quad -4 \quad -5 \quad -2 \end{array}$$

$1x^2 - 4x - 5 \text{ R} -2$

Mar 30-6:53 AM

~~#~~ 11-20 all

Mar 30-9:11 AM

1. What is one thing you struggled with today? Where did you get stuck? Do I need to slow down?
2. Divide the following using whatever method you want:
 $(x^3 - 6x^2 + 3x - 2) \div (x - 2)$

Mar 30-9:32 AM

$$(x^3 - 15) \div (x - 1)$$

$$\begin{array}{r} +1 \overline{) 1 \quad 0 \quad 0 \quad -15} \end{array}$$

Mar 30-6:53 AM