

6.2 Dividing Polynomials (pg 341) (Part 1)

EX#1 = $(6x^4y^3 + 12x^3y^2z - 18x^2y) \div (3xy) = 2x^3y^2 + 4x^2yz - 6xy$

1B) $(18x^2y + 27x^2y^2z) \div (3xy) = 6x + 9x^2y$

EX#2: $(x^2 + 3x - 40) \div (x - 5)$

$$\begin{array}{r} x+8 \\ x-5 \overline{) x^2+3x-40} \\ \underline{-(x^2+5x)} \\ 8x-40 \\ \underline{-(8x+40)} \\ 0 \end{array}$$

$$\begin{array}{r} 11 \\ 8 \overline{) 42} \\ \underline{-31} \\ 11 \end{array}$$

EX#3: $(a^2 + 7a - 11) \div (3 - a)$

2B) $(x^2 - 13x + 12) \div (x - 1)$

$$\begin{array}{r} x+12 \\ x-1 \overline{) x^2-13x+12} \\ \underline{-(x^2+1x)} \\ 12x+12 \\ \underline{-(12x+12)} \\ 0 \end{array}$$

$$\begin{array}{r} 10a-11 \\ 3-a \overline{) a^2+7a-11} \\ \underline{-(a^2+3a)} \\ 10a-11 \\ \underline{-(10a+30)} \\ 19 \end{array}$$

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#5 $z+3 \overline{) 3z^4 - 6z^3 - 9z^2 + 3z - 6}$

$$\begin{array}{r} 3z^3 - 9z^2 \\ + 15z^3 + 45z^2 \\ \hline 3z^4 + 3z^3 - 9z^2 + 3z - 6 \\ \underline{-(3z^4 + 9z^3)} \\ -15z^3 - 9z^2 + 3z - 6 \\ \underline{+(15z^3 + 45z^2)} \\ 36z^2 + 3z - 6 \\ \underline{-(36z^2 + 108z)} \\ -105z - 6 \\ \underline{+(105z + 315)} \\ 309 \end{array}$$

6.2 Dividing Polynomials (pg 341) (Part 1)

Ex#1 = $\frac{6x^4y^3 + 12x^3y^2z - 18x^2y}{3xy} = \frac{2x^3y^2}{1} + \frac{4x^2y}{1} - \frac{6x}{1}$

1B.) $(18x^2y + 27x^3y^2z) \div (3xy) = 6x + 9x^2y$

Ex#2: $(x^2 + 3x - 40) \div (x - 5)$

$$\begin{array}{r} x+8 \\ x-5 \overline{) x^2+3x-40} \\ \underline{-(x^2+5x)} \\ 8x-40 \\ \underline{-(8x+40)} \\ 0 \end{array}$$

$$\begin{array}{r} 14 \\ 3 \overline{) 42} \\ \underline{-31} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

Ex#3: $(a^2 + 7a - 11) \div (3 - a)$

2B) $(x^2 - 13x + 12) \div (x - 1)$

$$\begin{array}{r} x+12 \\ x-1 \overline{) x^2-13x+12} \\ \underline{-(x^2+1x)} \\ 12x+12 \\ \underline{-(12x+12)} \\ 0 \end{array}$$

$$\begin{array}{r} -a-10 \\ 3-a \overline{) a^2+7a-11} \\ \underline{-(a^2+3a)} \\ 10a-11 \\ \underline{-(10a+30)} \\ 19 \end{array}$$

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#5 $z+3 \overline{) 3z^4 - 6z^3 - 9z^2 + 3z - 6}$

$$\begin{array}{r} 3z^3 - 15z^2 + 36z - 16 \\ z+3 \overline{) 3z^4 - 6z^3 - 9z^2 + 3z - 6} \\ \underline{-(3z^4 + 9z^3)} \\ -15z^3 - 9z^2 \\ \underline{+(15z^3 + 45z^2)} \\ 36z^2 + 3z \\ \underline{-(36z^2 + 108z)} \\ -105z - 6 \\ \underline{+(105z + 315)} \\ 309 \end{array}$$