

Friday February 3, 2012  
 HW#2  
 Aim: How do we divide polynomials?  
 Do Now: Factor Completely

$(y+9)(y-3)$   
 ①  $3x^2-27 = 3(x^2-9) = 3(x+3)(x-3)$   
 ②  $5n^2-80 = 5(n^2-16) = 5(n+4)(n-4)$   
 ③  $2y^2+12y-54 = 2(y^2+6y-27) = 2(y+9)(y-3)$

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I- Divide Polynomials

①  $\frac{a^4}{a^1} = a^{4-1} = a^3$

②  $\frac{-12x^3}{2x} = -6x^2$

③  $(x^2+5x+6) \div (x+3)$

Method 1 (Factor)  
 $x^2+5x+6 \Rightarrow (x+3)(x+2) = x+2$

Method 2 (Divide)

$\frac{15}{3} = \frac{15}{3} \begin{array}{r} 13 \\ -5 \\ \hline 5 \end{array}$        $\frac{5}{3} \begin{array}{r} 5 \\ -15 \\ \hline 0 \end{array}$  → Quotient  
 Remainder 0

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

$x+3 \overline{) x^2+5x+6}$   
 $\underline{-(x^2+3x)}$   
 $+2x+6$   
 $\underline{-(2x+6)}$   
 $0$

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④  $(x^2-5x+8) \div (x-3)$

$x-3 \overline{) x^2-5x+8}$   
 $\underline{-(x^2-3x)}$   
 $-2x+8$   
 $\underline{+2x-6}$   
 $0+2$

$x-2 + \frac{2}{x-3}$

⑤  $(2x^2+5x-1) \div (2x-1)$

$2x-1 \overline{) 2x^2+5x-1}$   
 $\underline{-(2x^2+x)}$   
 $+4x-1$   
 $\underline{-(4x-2)}$   
 $0+1$

$x+3 + \frac{2}{2x-1}$

HW  $\Rightarrow$  www.mspineda.com +2

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