Algebra 2 | Monday 10-15-12 | Class Notes

Ch. 3-3 Dividing Polynomials

Polynomial Long Division

Intro. – dividing a polynomial by a binomial.

(Ex) $\dfrac{p^3+5p^2-2p-6}{}$ $\quad p \neq -1$

$$
\begin{array}{r|l}
 & p^2+4p-6 \\
\hline
p+1 & p^3+5p^2-2p-6 \\
 & -(p^3+1p^2) \\
\hline
 & 4p^2-2p \\
 & -(4p^2+4p) \\
\hline
 & -6p-6 \\
 & -(-6p-6) \\
\hline
 & 0
\end{array}
$$

$$(p+1)(p^2+4p-6)$$

$$p^3+4p^2-6p$$

$$+\quad p^2+4p-6$$

$$p^3+5p^2-2p-6 \quad \checkmark$$

(Ex) $\dfrac{-3r^3+21r^2+16r+72}{r-8}$

$-3r^2-3r-8+\dfrac{8}{r-8}$

$r-8 \;\overline{)\; -3r^3+21r^2+16r+72}$

$-(-3r^3+24r^2)$

$-3r^2+16r$

$-(-3r^2+24r)$

$-8r+72$

$-(-8r+64)$

8

Algebra 2 - Mr. C. Name_____

Practice: Polynomial Long Division - Ch. 3-3

Date_____ Period____

Divide.

1) $(p^3 + 5p^2 - 2p - 6) \div (p + 1)$

2) $(8m^3 + 17m^2 - 2m - 8) \div (m + 2)$

3) $(7x^3 - 64x^2 - 51x - 90) \div (x - 10)$

4) $(3n^3 - 2n^2 - 17n + 18) \div (n - 2)$

5) $(m^3 + 2m^2 - 38m - 13) \div (m + 7)$

6) $(x^3 - x^2 - 43x + 3) \div (x - 7)$

7) $(-3r^3 + 21r^2 + 16r + 72) \div (r - 8)$

8) $(n^3 - 8n^2 - 3n + 16) \div (n + 1)$

Answers to Practice: Polynomial Long Division - Ch. 3-3 (ID: 1)

1) $p^2 + 4p - 6$

2) $8m^2 + m - 4$

3) $7x^2 + 6x + 9$

4) $3n^2 + 4n - 9$

5) $m^2 - 5m - 3 + \frac{8}{m+7}$

6) $x^2 + 6x - 1 - \frac{4}{x-7}$

7) $-3r^2 - 3r - 8 + \frac{8}{r-8}$

8) $n^2 - 9n + 6 + \frac{10}{n+1}$