

Division HW

ID: 1

Name _____

Date _____ Period _____

Assignment

Divide. #1,3,5 - Synthetic#2,4,6 Long Division

1) $(m^3 + 6m^2 + 11m - 3) \div (m + 2)$

2) $(x^3 - 2x^2 + 7x - 33) \div (x - 3)$

3) $(n^3 - 14n^2 + 43n + 17) \div (n - 9)$

4) $(p^3 - 13p^2 + 40p - 37) \div (p - 9)$

5) $(x^4 - 3x^3 - 45x^2 + 38x + 26) \div (x - 8)$

6) $(9a^4 - 27a^3 - 6a + 15) \div (a - 3)$

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#2,4,6 Long Division

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$$\begin{array}{r|rrrr} -2 & 1 & 6 & 11 & -3 \\ & & -2 & -8 & -6 \\ \hline & 1 & 4 & 3 & -9 \end{array}$$

$$m^2 + 4m + 3 - \frac{9}{m+2}$$

$$\begin{array}{r|rrrr} 9 & 1 & -14 & 43 & 17 \\ & & 9 & -45 & -18 \\ \hline & 1 & -5 & -2 & -1 \end{array}$$

$$n^2 - 5n - 2 - \frac{1}{n-9}$$

$$\begin{array}{r|rrrrr} 8 & 1 & -3 & -45 & 38 & 26 \\ & & 8 & 40 & -40 & -16 \\ \hline & 1 & 5 & -5 & -2 & 10 \end{array}$$

$$x^3 + 5x^2 - 5x - 2 + \frac{10}{x-8}$$

$$\begin{array}{r} \boxed{x^2 + x + 10 + \frac{-3}{x-3}} \\ x-3 \overline{) x^3 - 2x^2 + 7x - 33} \\ \underline{-x^3 + 3x^2} \\ x^2 + 7x \\ \underline{-x^2 + 3x} \\ 10x - 33 \\ \underline{-10x + 30} \\ -3 \end{array}$$

$$\boxed{p^2 - 4p + 4 + \frac{-1}{p-9}}$$

$$\begin{array}{r} 4. \quad p-9 \overline{) p^3 - 13p^2 + 40p - 37} \\ \underline{-p^3 + 9p^2} \\ -4p^2 + 40p \\ \underline{-4p^2 + 36p} \\ 4p - 37 \\ \underline{-4p + 36} \\ -1 \end{array}$$

$$\begin{array}{r} 6. \quad a-3 \overline{) 9a^4 - 27a^3 + 0a^2 - 6a + 15} \\ \underline{-9a^4 + 27a^3} \\ 0a^3 + 0a^2 - 6a + 15 \\ \underline{-0a^3 + 0a^2} \\ 0a^2 - 6a + 15 \\ \underline{-0a^2 + 0a} \\ -6a + 15 \\ \underline{-6a + 15} \\ 0 \end{array}$$