Math 3   Name_____

Unit 8.3 Synthetic Division of Polynomials PRACTICE   Period_____

Divide.

1) $(7p^4 - 46p^3 - 76p^2 - 42p + 76) \div (p - 8)$

$$7p^3 + 10p^2 + 4p - 10 - \frac{4}{p - 8}$$

2) $(b^4 - 8b^3 + 5b - 49) \div (b - 8)$

$$b^3 + 5 - \frac{9}{b - 8}$$

3) $(n^5 + 3n^4 - 10n^3 + 8n^2 - 7n - 5) \div (n - 1)$

$$n^4 + 4n^3 - 6n^2 + 2n - 5 - \frac{10}{n - 1}$$

4) $(-6x^3 + 21 + x^5 + x^4 - 3x^2) \div (-2 + x)$

$$x^4 + 3x^3 - 3x - 6 + \frac{9}{-2 + x}$$

5) $(-2a^2 + a^5 - 73 + 24a - 7a^4) \div (a - 7)$

$$a^4 - 2a + 10 - \frac{3}{a - 7}$$

6) $(-9 - 30v - 12v^2 + 5v^3) \div (v - 4)$

$$5v^2 + 8v + 2 - \frac{1}{v - 4}$$

7) $(9m^4 - 45m^3 + 4m - 24) \div (m - 5)$

$$9m^3 + 4 - \frac{4}{m - 5}$$

8) $(3n^4 + 3n^3 - 3n + 2) \div (n + 1)$

$$3n^3 - 3 + \frac{5}{n + 1}$$

9) $\left(a^4 - 3a^3 - a + 13\right) \div \left(a - 3\right)$

$a^3 - 1 + \dfrac{10}{a - 3}$

10) $\left(-12v^2 - 16 + v^3 + 36v\right) \div \left(v - 7\right)$

$v^2 - 5v + 1 - \dfrac{9}{v - 7}$

11) $\left(36n^3 - 40n^2 + 9n^4 + 28n + 21\right) \div \left(n + 5\right)$

$9n^3 - 9n^2 + 5n + 3 + \dfrac{6}{n + 5}$

12) $\left(n^4 + 2n^3 - 7n^2 - 12n - 13\right) \div \left(n + 1\right)$

$n^3 + n^2 - 8n - 4 - \dfrac{9}{n + 1}$

13) $\left(x^5 + 12 - 63x^3 + 2x^4 - x\right) \div \left(-7 + x\right)$

$x^4 + 9x^3 - 1 + \dfrac{5}{-7 + x}$

14) $\left(-40p + 2p^3 - 21 + 3p^2\right) \div \left(p + 5\right)$

$2p^2 - 7p - 5 + \dfrac{4}{p + 5}$

15) $\left(x^5 - 2x^4 + 4x^2 - x - 3\right) \div \left(x + 1\right)$

$x^4 - 3x^3 + 3x^2 + x - 2 - \dfrac{1}{x + 1}$

16) $\left(x^4 - 3x^3 - 8x + 4\right) \div \left(x - 1\right)$

$x^3 - 2x^2 - 2x - 10 - \dfrac{6}{x - 1}$

Made with Infinite Algebra 2.