

**Corrective Assignment 7.2 #2****Divide using polynomial long division.**

1)  $(k^4 + 17k^3 + 72k^2 + 8k - 45) \div (k + 7)$

2)  $(n^3 + 5n^2 - 3n - 27) \div (n + 3)$

3)  $(k^4 + 10k^3 - 10k^2 - 100k) \div (k + 10)$

4)  $(v^3 - v^2 + v - 4) \div (v - 2)$

**Divide using synthetic division.**

5)  $(7n^4 - 71n^3 + 10n^2 + 9) \div (n - 10)$

6)  $(6n^4 + 33n^3 - 55n^2 + 46n - 73) \div (n + 7)$

7)  $(x^3 - 4x^2 - 52x + 63) \div (x - 9)$

8)  $(b^4 - 13b^3 + 14b^2 - 4b + 2) \div (b - 1)$

**Given a polynomial  $f(x)$  and a factor of  $f(x)$ , factor  $f(x)$  completely.**

9)  $f(x) = 4x^3 - 16x^2 + 17x - 5; 2x - 5$

10)  $f(x) = 5x^3 + 33x^2 + 36x - 20; x + 2$

11)  $f(x) = 5x^3 + 11x^2 - 73x - 15; x + 5$

12)  $f(x) = 2x^3 + 5x^2 - 21x - 36; x - 3$

## Answers to Corrective Assignment 7.2 #2

$$1) k^3 + 10k^2 + 2k - 6 - \frac{3}{k+7}$$

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

$$3) k^3 - 10k$$

$$4) v^2 + v + 3 + \frac{2}{v-2}$$

$$5) 7n^3 - n^2 + \frac{9}{n-10}$$

$$6) 6n^3 - 9n^2 + 8n - 10 - \frac{3}{n+7}$$

$$7) x^2 + 5x - 7$$

$$8) b^3 - 12b^2 + 2b - 2$$

$$9) \text{ Factors to: } f(x) = (2x - 1)(x - 1)(2x - 5)$$

$$\text{Zeros: } \left\{ \frac{1}{2}, 1, \frac{5}{2} \right\}$$

$$10) \text{ Factors to: } f(x) = (5x - 2)(x + 5)(x + 2)$$

$$\text{Zeros: } \left\{ \frac{2}{5}, -5, -2 \right\}$$

$$11) \text{ Factors to: } f(x) = (5x + 1)(x - 3)(x + 5)$$

$$\text{Zeros: } \left\{ -\frac{1}{5}, 3, -5 \right\}$$

$$12) \text{ Factors to: } f(x) = (2x + 3)(x + 4)(x - 3)$$

$$\text{Zeros: } \left\{ -\frac{3}{2}, -4, 3 \right\}$$