

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

$$\begin{aligned} f(2) &= 3(2)^3 - 2^2 + 5(2) - 4 \\ &= 3(8) - 4 + 10 - 4 \\ &= 24 - 4 + 10 - 4 \\ &= 26 \end{aligned}$$

$$11) f(x) = x^4 - 6x^2 + 4x - 8 ; c = -3$$

$$\begin{aligned} &= (-3)^4 - 6(-3)^2 + 4(-3) - 8 \\ &= 81 - 6(9) + (-12) - 8 \\ &= 81 - 54 - 20 \\ &= 7 \end{aligned}$$

$$13) f(x) = x^3 + x^2 - 2x + 12 \quad c = -3$$

$$\begin{aligned} &= (-3)^3 + (-3)^2 - 2(-3) + 12 \\ &= -27 + 9 + 6 + 12 \\ &= -27 + 27 \\ &= 0 \end{aligned}$$

$$15) f(x) = x^{12} - 4096 \quad c = -2$$

$$\begin{aligned} &= (2)^3 (2)^3 (2)^3 (2)^3 \\ &= 8(8)(8)(8) - 4096 \\ &= 64(64) - 4096 \\ &= 4096 - 4096 \end{aligned}$$

$$f(-2) = 0$$

$$\begin{array}{r} 64 \\ 64 \\ \hline 128 \\ 384 \\ \hline 4096 \end{array}$$

21) $2x^3 - 3x^2 + 4x - 5 ; x-2$

$$\begin{array}{r|rrrr} 2 & 2 & -3 & 4 & -5 \\ & & 4 & 2 & -2 \\ \hline & 2 & 1 & 6 & (-7) \end{array}$$

23) $x^3 - 8x - 5 ; x+3$

$$\begin{array}{r|rrrr} -3 & 1 & 0 & -8 & -5 \\ & & -3 & 9 & -3 \\ \hline & 1 & -3 & 1 & (-8) \end{array}$$

29) $f(x) = 2x^3 + 3x^2 - 4x + 4 ; c=3$

$$\begin{array}{r|rrrr} 3 & 2 & 3 & -4 & 4 \\ & & 6 & 21 & 69 \\ \hline & 2 & 9 & 23 & (73) \end{array}$$

35) $f(x) = 3x^4 + 8x^3 - 2x^2 - 10x + 4 ; c=-2$

$$\begin{array}{r|rrrrr} -2 & 3 & 8 & -2 & -10 & 4 \\ & & -6 & -4 & 12 & -4 \\ \hline & 3 & 2 & -6 & 2 & (0) \end{array}$$