

$$\begin{array}{r}
 2x^2 - 4x + 6 \\
 \hline
 3x + 5 \overline{) 6x^3 - 2x^2 - 2x + 30} \\
 \underline{- 6x^3 + 10x^2} \quad \downarrow \quad \downarrow \\
 -12x^2 - 2x \\
 \underline{- -12x^2 - 20x} \\
 18x + 30 \\
 \underline{- 18x + 30} \\
 0
 \end{array}$$

$$\begin{array}{r}
 5x^2 + 10x + 3 \\
 \hline
 2x - 4 \overline{) 10x^3 + 0x^2 - 34x + 4} \\
 \underline{- 10x^3 - 20x^2} \quad \downarrow \quad \downarrow \\
 20x^2 - 34x \\
 \underline{- 20x^2 - 40x} \\
 6x + 4 \\
 \underline{- 6x - 12} \\
 16
 \end{array}
 \quad r \ 16$$

$$2 \left| \begin{array}{cccc} 3 & -10 & 13 & -26 \\ & 6 & -8 & 10 \end{array} \right| \quad R-16$$

$$3 \quad -4 \quad 5 \quad -16$$

$$(x-2)(3x^2-4x+5) \quad r-16$$

$$3 \left| \begin{array}{cccc} 4 & -14 & 0 & -1 & 27 \\ & 12 & -6 & -18 & -57 \end{array} \right| \quad r-30$$

$$4 \quad -2 \quad -6 \quad -19 \quad -30$$

$$(x-3)(4x^3-2x^2-6x-19) \quad r-30$$

$$-5 \left| \begin{array}{cccccc} 2 & +11 & -1 & -30 & 6 & 30 \\ & -10 & -5 & 30 & 0 & -30 \end{array} \right|$$

$$2 \quad 1 \quad -6 \quad 0 \quad 6 \quad 0$$

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

$$(x+2) \quad P(x) = x^3 - 6x - 4$$

$$-2 \left[\begin{array}{cccc} 1 & 0 & -6 & -4 \\ & -2 & 4 & 4 \end{array} \right]$$
$$1 \quad -2 \quad -2 \quad 0$$

$$(x+2)(x^2 - 2x - 2)$$

SOLVE $P(-2)$

$$\begin{aligned} P(-2) &= (-2)^3 - 6(-2) - 4 \\ &= -8 + 12 - 4 \\ &= 0 \end{aligned}$$

SOLVE FOR $f(-3)$

$$(-3)^4 - 10(-3)^2 - 2(-3) + 4$$

$$81 - 90 + 6 + 4$$

$$-9 + 10$$

$$\textcircled{1}$$

$$\begin{array}{r|rrrrr} -3 & 1 & 0 & -10 & -2 & 4 \\ & & -3 & 9 & 3 & -3 \\ \hline & 1 & -3 & -1 & 1 & \textcircled{1} \end{array}$$

$$(x^{10} - 15x + 18) \div (x-1)$$

$$1 \overline{) 1000 \dots}$$

$$\begin{aligned} f(1) &= (1)^{10} - 15(1) + 18 \\ &= 1 - 15 + 18 \\ &= 4 \end{aligned}$$