

# HW 60

p290

$$57. a) \begin{array}{r|rrrr} 3 & 1 & -5 & -7 & 4 \\ & \downarrow & & & \\ & 3 & -6 & -39 & \\ \hline & 1 & -2 & -13 & -35 \end{array}$$

$$\boxed{h(3) = -35}$$

$$c) \begin{array}{r|rrrr} -2 & 1 & -5 & -7 & 4 \\ & \downarrow & & & \\ & -2 & 14 & -14 & \\ \hline & 1 & -7 & 7 & -10 \end{array}$$

$$\boxed{h(-2) = -10}$$

$$67. \begin{array}{r|rrrr} -2 & 2 & 1 & -5 & 2 \\ & \downarrow & & & \\ & -4 & 6 & -2 & \\ \hline & 2 & -3 & 1 & 0 \end{array} \checkmark$$

$$\begin{array}{r|rr} 1 & 2 & -3 & 1 \\ & \downarrow & & \\ & 2 & -1 & \\ \hline & 2 & -1 & 0 \end{array} \checkmark$$

$$\boxed{(2x-1)(x+2)(x-1)} \\ x = \frac{1}{2}, -2, 1$$

$$68. \begin{array}{r|rrrr} -3 & 3 & 2 & -19 & 4 \\ & \downarrow & & & \\ & -9 & 21 & -4 & \\ \hline & 3 & -7 & 2 & 0 \end{array} \checkmark$$

$$\begin{array}{r|rr} 2 & 3 & -7 & 2 \\ & \downarrow & & \\ & 6 & -2 & \\ \hline & 3 & -1 & 0 \end{array}$$

$$\boxed{(3x-1)(x+3)(x-2)} \\ x = \frac{1}{3}, -3, 2$$

$$69. \begin{array}{r|rrrrr} 5 & 1 & -4 & -15 & 58 & -40 \\ & \downarrow & & & & \\ & 5 & 5 & -50 & 40 & \\ \hline & 1 & 1 & -10 & 8 & 0 \end{array} \checkmark$$

$$\begin{array}{r|rr} -4 & 1 & 1 & -10 & 8 \\ & \downarrow & & & \\ & -4 & 12 & -8 & \\ \hline & 1 & -3 & 2 & 0 \end{array}$$

$$x^2 - 3x + 2 = (x-2)(x-1)$$

$$\boxed{(x-2)(x-1)(x-5)(x+4)} \\ x = 2, 1, 5, -4$$



$$\begin{array}{r}
 x^2 + 9x - 1 \\
 84. \quad x^2 - 4 \overline{) x^4 + 9x^3 - 5x^2 - 30x + 4} \\
 \quad \underline{-x^4} \phantom{+ 9x^3 - 5x^2 - 30x + 4} \\
 \quad \quad \quad 9x^3 - 5x^2 - 30x + 4 \\
 \quad \quad \quad \underline{9x^3} \phantom{- 5x^2 - 30x + 4} \\
 \quad \quad \quad \quad \quad -5x^2 - 30x + 4 \\
 \quad \quad \quad \quad \quad \underline{-5x^2} \phantom{- 30x + 4} \\
 \quad \quad \quad \quad \quad \quad \quad -30x + 4 \\
 \quad \quad \quad \quad \quad \quad \quad \underline{-30x} \phantom{+ 4} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \underline{-4} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 0
 \end{array}$$

$$\boxed{x^2 + 9x - 1}$$

$$87. \quad \textcircled{F} \quad x = -4/7$$