

HW 58

p290

$$11. \quad \begin{array}{r} 2x+4 \\ x+3 \overline{) 2x^2+10x+12} \\ \underline{-2x^2+6x} \\ 4x+12 \\ \underline{-4x+12} \\ \end{array}$$

$$\boxed{2x+4}$$

$$12. \quad \begin{array}{r} 5x+3 \\ x-4 \overline{) 5x^2-17x-12} \\ \underline{-5x^2+20x} \\ 3x-12 \\ \underline{-3x+12} \\ \end{array}$$

$$\boxed{5x+3}$$

$$13. \quad \begin{array}{r} x^2-3x+1 \\ 4x+5 \overline{) 4x^3-7x^2-11x+5} \\ \underline{-4x^3+20x^2} \\ -2x^2-11x+5 \\ \underline{-12x^2+15x} \\ 4x+5 \end{array}$$

$$\boxed{x^2-3x+1}$$

$$14. \quad \begin{array}{r} 2x^2-4x+3 \\ 3x-2 \overline{) 6x^3-16x^2+17x-6} \\ \underline{-6x^3+4x^2} \\ -12x^2+17x-6 \\ \underline{-12x^2+8x} \\ 9x-6 \\ \underline{-9x+6} \\ \end{array}$$

$$\boxed{2x^2-4x+3}$$

$$15. \quad \begin{array}{r} x^3+3x^2-1 \\ x+2 \overline{) x^4+5x^3+6x^2-x-2} \\ \underline{-x^4+2x^3} \\ 3x^3+6x^2-x-2 \\ \underline{-3x^3+6x^2} \\ -x-2 \\ \underline{-x-2} \\ \end{array}$$

$$\boxed{x^3+3x^2-1}$$

$$20. \quad \begin{array}{r} 4 \\ 2x+1 \overline{) 8x-5} \\ \underline{-8x+4} \\ -9 \end{array}$$

$$\boxed{4 - \frac{9}{2x+1}}$$

$$21. \quad \begin{array}{r} x \\ x^2+1 \overline{) x^3+0x^2+0x-9} \\ \underline{-x^3+0x^2+x} \\ -x-9 \end{array}$$

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

$$22. \quad \begin{array}{r} x^2 \\ x^3-1 \overline{) x^5+0x^4+0x^3+0x^2+0x+1} \\ \underline{-x^5} \\ x^2+0x+1 \end{array}$$

$$\boxed{x^2 + \frac{x^2+1}{x^3-1}}$$

$$\begin{array}{r}
 2x-8 \\
 x^2+1 \overline{) 2x^3-8x^2+3x-9} \\
 \underline{2x^3} \\
 -8x^2+3x-9 \\
 \underline{-8x^2} \\
 3x-9 \\
 \underline{3x-3} \\
 -6
 \end{array}$$

$$2x-8 + \frac{x-1}{x^2+1}$$

$$x-1$$

$$\begin{array}{r}
 x^2+10x+9 \\
 x^2-x-3 \overline{) x^4+5x^3+0x^2-20x-10} \\
 \underline{x^4-x^3-3x^2} \\
 6x^3+3x^2-20x-10 \\
 \underline{6x^3-6x^2-18x} \\
 9x^2-2x-10 \\
 \underline{9x^2-9x-27} \\
 7x+11
 \end{array}$$

$$x^2+10x+9 + \frac{7x+11}{x^2-x-3}$$

$$7x+11$$