

6.5
p 356
15-25 odd
27-37 odd

$$(15) (x^2 + 7x - 5) \div (x - 2) = \boxed{x + 9 + \frac{13}{x-2}}$$

$$\begin{array}{r} x + 9 + \frac{13}{x-2} \\ x-2 \overline{) x^2 + 7x - 5} \\ \underline{-(x^2 - 2x)} \\ 9x - 5 \\ \underline{-(9x - 18)} \\ 13 \end{array}$$

$$(17) (2x^2 + 3x - 1) \div (x + 4) = \boxed{2x - 5 + \frac{19}{x+4}}$$

$$\begin{array}{r} 2x - 5 + \frac{19}{x+4} \\ x+4 \overline{) 2x^2 + 3x - 1} \\ \underline{-(2x^2 + 8x)} \\ -5x - 1 \\ \underline{-(-5x - 20)} \\ 19 \end{array}$$

$$(19) (x^2 + 5x - 3) \div (x - 10) = \boxed{x + 15 + \frac{147}{x-10}}$$

$$\begin{array}{r} x + 15 + \frac{147}{x-10} \\ x-10 \overline{) x^2 + 5x - 3} \\ \underline{-(x^2 - 10x)} \\ 15x - 3 \\ \underline{-(15x - 150)} \\ 147 \end{array}$$

$$(21) (2x^4 + 7) \div (x^2 - 1) = \boxed{2x^2 + 2 + \frac{9}{x^2 - 1}}$$

$$\begin{array}{r}
 \overline{2x^2 + 2 + \frac{9}{x^2 - 1}} \\
 x^2 + 0x - 1 \overline{) 2x^4 + 0x^3 + 0x^2 + 0x + 7} \\
 \underline{-(2x^4 + 0x^3 - 2x^2)} \\
 2x^2 + 0x + 7 \\
 \underline{-(2x^2 + 0x - 2)} \\
 9
 \end{array}$$

$$(23) (6x^2 + x - 7) \div (2x + 3) = \boxed{3x - 4 + \frac{5}{2x + 3}}$$

$$\begin{array}{r}
 \overline{3x - 4 + \frac{5}{2x + 3}} \\
 2x + 3 \overline{) 6x^2 + x - 7} \\
 \underline{-(6x^2 + 9x)} \\
 -8x - 7 \\
 \underline{-(-8x - 12)} \\
 5
 \end{array}$$

$$(25) (5x^4 + 14x^3 + 9x) \div (x^2 + 3x) = \boxed{5x^2 - x + 3}$$

$$\begin{array}{r}
 \overline{5x^2 - x + 3} \\
 x^2 + 3x + 0 \overline{) 5x^4 + 14x^3 + 0x^2 + 9x + 0} \\
 \underline{-(5x^4 + 15x^3 + 0x^2)} \\
 -x^3 + 0x^2 + 9x \\
 \underline{-(-x^3 - 3x^2 + 0x)} \\
 3x^2 + 9x + 0 \\
 \underline{-(3x^2 + 9x + 0)} \\
 0
 \end{array}$$

$$(27) (x^3 - 7x - 6) \div (x-2) = \boxed{x^2 + 2x - 3 - \frac{12}{x-2}}$$

$$\begin{array}{r} 2 \overline{) 1 \quad 0 \quad -7 \quad -6} \\ \underline{2 \quad 4 \quad -6} \\ 1 \quad 2 \quad -3 \quad \boxed{-12} \end{array}$$

$$(29) (4x^2 + 5x - 4) \div (x+1) = \boxed{4x+1 - \frac{5}{x+1}}$$

$$\begin{array}{r} -1 \overline{) 4 \quad 5 \quad -4} \\ \underline{-4 \quad -1} \\ 4 \quad 1 \quad \boxed{-5} \end{array}$$

$$(31) (2x^2 + 7x + 8) \div (x-2) = \boxed{2x+11 + \frac{30}{x-2}}$$

$$\begin{array}{r} 2 \overline{) 2 \quad 7 \quad 8} \\ \underline{4 \quad 22} \\ 2 \quad 11 \quad \boxed{30} \end{array}$$

$$(33) (x^2 + 10) \div (x+4) = \boxed{x-4 + \frac{26}{x+4}}$$

$$\begin{array}{r} -4 \overline{) 1 \quad 0 \quad 10} \\ \underline{-4 \quad 16} \\ 1 \quad -4 \quad \boxed{26} \end{array}$$

$$(35) (10x^4 + 5x^3 + 4x^2 - 9) \div (x+1) = \boxed{10x^3 - 5x^2 + 9x - 9}$$

$$\begin{array}{r} -1 \overline{) 10 \quad 5 \quad 4 \quad 0 \quad -9} \\ \underline{-10 \quad 5 \quad -9 \quad 9} \\ 10 \quad -5 \quad 9 \quad -9 \quad \boxed{10} \end{array}$$

$$(37) (2x^4 - 6x^3 + x^2 - 3x - 3) \div (x-3) = 2x^3 + x - \frac{3}{x-3}$$

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