



Exercise 6C

Therefore, the quotient is $(3x - 8)$ and the remainder is 7.

Q9

Answer :

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

Therefore, the quotient is $(x^2 - x - 1)$ and the remainder is 1.

Q10

Answer :

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

Therefore, the quotient is $x^2 - x + 1$ and the remainder is 0.

Q11

Answer :

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

Therefore, the quotient is $(x^2 - 3x + 4)$ and remainder is 0.

Q12

Answer :

$$\begin{array}{r} x^2 - 5x + 6 \overline{) x^3 - 6x^2 + 11x - 6} \quad (x-1) \\ \underline{x^3 - 5x^2 + 6x} \\ -1x^2 + 5x - 6 \\ \underline{-1x^2 + 5x - 6} \\ 0 \end{array}$$

Therefore, the quotient is $(x-1)$ and the remainder is 0.

Q13

Answer :

$$\begin{array}{r}
 x^2 - 3x + 4 \overline{) 5x^3 - 12x^2 + 12x + 13} \left(5x + 3 \right. \\
 \underline{5x^3 - 15x^2 + 20x} \\
 3x^2 - 8x + 13 \\
 \underline{3x^2 - 9x + 12} \\
 x + 1
 \end{array}$$

Therefore, the quotient is (5x+ 3) and the remainder is (x + 1).

Q14

Answer :

$$\begin{array}{r}
 2x^2 - 3x + 5 \overline{) 2x^3 - 5x^2 + 8x - 5} \left(x - 1 \right. \\
 \underline{2x^3 - 3x^2 + 5x} \\
 -2x^2 + 3x - 5 \\
 \underline{-2x^2 + 3x - 5} \\
 0
 \end{array}$$

Therefore, the quotient is (x-1) and the remainder is 0.

Q15

Answer :

$$\begin{array}{r}
 2x^2 + x - 1 \overline{) 8x^4 + 10x^3 - 5x^2 - 4x + 1} \left(4x^2 + 3x - 2 \right. \\
 \underline{8x^4 + 4x^3 - 4x^2} \\
 6x^3 - x^2 - 4x + 1 \\
 \underline{6x^3 + 3x^2 - 3x} \\
 -4x^2 - x + 1 \\
 \underline{-4x^2 - 2x + 2} \\
 x - 1
 \end{array}$$

Therefore, the quotient is (4x²+ 3x -2) and the remainder is (x-1).

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