



1. Find the quotient obtained by dividing $(x^2 + 2x^2 - x - 2)$ by $(x + 1)$

(3)

2. Find the quotient by dividing $(20 + x + 3x^2 + x^3)$ by $(x + 4)$

(4)

Solutions

1.

Attempt to divide **M1**

x^2 term, **M1**

Full quotient **M1**

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

quotient: $x^2 + x - 2$

2.

Rewriting $20 + x + 3x^2 + x^3$ as $x^3 + 3x^2 + x + 20$ **M1**

Attempt to divide **M1**

x^2 term, **M1**

Full quotient **M1**

$$\begin{array}{r} x^2 - x + 5 \\ x+4 \overline{) x^3 + 3x^2 + x + 20} \\ \underline{x^3 + 4x^2} \\ -x^2 + x \\ \underline{-x^2 - 4x} \\ 5x + 20 \\ \underline{5x + 20} \\ 0 \end{array}$$

quotient: $x^2 - x + 5$

