

Polynomial Long Division Practice

Find the quotient of the problem below. State if the divisor is a factor of the dividend. Then state the division algorithm as it relates to the problem

$$(2x^3 - x^2 - 2x + 6) \div (2x + 3)$$

Find the quotient of the problem below. State if the divisor is a factor of the dividend. Then state the division algorithm as it relates to the problem

$$\frac{2x^4 - 9x^3 + 13x^2 - 8x + 3}{2x - 3}$$

Find the quotient of the problem below. State if the divisor is a factor of the dividend. Then state the division algorithm as it relates to the problem. Write any remainders in fraction form

$$(3x^3 + 22x^2 - 48x - 5) \div (3x - 5)$$

Find the quotient of the problem below. State if the divisor is a factor of the dividend. Then state the division algorithm as it relates to the problem. Write any remainders in fraction form

$$\frac{4x^4 + 35x^3 - 54x - 26}{4x + 3}$$

Find the quotient of the problem below. Then continue to factor the quotient and state in the form of the division algorithm

$$\frac{x^3 - 4x^2 - 11x + 30}{x - 2}$$

Find the quotient of the problem below. Then continue to factor the quotient and state in the form of the division algorithm

$$\frac{x^3 - 3x^2 - 4x + 12}{x - 3}$$

Find the missing information in the problem below

$$\begin{array}{r} \text{ } \\ x-4 \overline{) x^3 + 2x^2 - 6x + 12} \\ \underline{-(x^3 - 4x^2)} \\ 6x^2 - 6x + 12 \\ \underline{-(6x^2 - 24x)} \\ 18x + 12 \\ \underline{-(18x - 72)} \\ 84 \end{array}$$

Find the missing information in the problem below

$$\begin{array}{r} x^2 - x - 3 \\ \text{ } \overline{) x^3 + 2x^2 - 6x + 12} \\ \underline{-(x^3 + 3x^2)} \\ -x^2 - 6x + 12 \\ \underline{-(-x^2 - 3x)} \\ -3x + 12 \\ \underline{-(-3x - 9)} \\ 21 \end{array}$$

$$\begin{array}{r} x^2 - 11x + 54 + \frac{-180}{x-3} \\ x-3 \overline{) x^3 - 8x^2 + 21x - 18} \\ \underline{x^3 - 3x^2} \\ -11x^2 + 21x - 18 \\ \underline{-11x^2 + 33x} \\ 54x - 18 \\ \underline{54x - 162} \\ -180 \end{array}$$

Correct any mistakes in the problem above

$$\begin{array}{r} x^3 + 4x^2 + 7x + \frac{17}{x-2} \\ x-2 \overline{) x^4 + 2x^3 - x^2 + 3} \\ \underline{-(x^4 - 2x^3)} \\ 4x^3 - x^2 + 3 \\ \underline{-(4x^3 - 8x^2)} \\ 7x^2 + 3 \\ \underline{-(7x^2 - 14)} \\ 17 \end{array}$$

Correct any mistakes in the problem above