



Synthetic Division Setup - Final Polynomial from No Setup (with Hint)

1

$$\frac{x^3 + 7x^2 + 12x}{(x - 3)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$2x^2 + 10x + 42 + \frac{126}{(x-3)}$	$x^2 + 10x + 42 - \frac{126}{(x-3)}$

2

$$\frac{x^4 - x^3 - 5x^2 - 3x}{(x + 2)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$2x^3 - 3x^2 + x - 5 + \frac{10}{(x+2)}$	$x^3 - 3x^2 + x - 5 - \frac{10}{(x+2)}$

3

$$\frac{x^3 - 3x^2 - 4x}{(x - 4)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$x^2 + x$	$x^3 + x^2$

4

$$\frac{x^4 - 3x^3 - 3x^2 + 11x - 6}{(x - 1)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$x^3 - 2x^2 - 5x + 6$	$2x^3 - 2x^2 - 5x + 6$

5

$$\frac{x^5 + 4x^4 - 7x^3 - 22x^2 + 24x}{(x - 1)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$x^5 + 5x^4 - 2x^3 - 24x^2$	$2x^4 + 5x^3 - 2x^2 - 24x$

6

$$\frac{x^3 + 4x^2 + x - 6}{(x - 1)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$2x^2 + 5x + 6$	$x^2 + 5x + 6$

7

$$\frac{x^3 - 2x^2 - 8x}{(x - 3)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$x^2 + x - 5 - \frac{15}{(x-3)}$	$2x^2 + x - 5 - \frac{15}{(x-3)}$

8

$$\frac{x^5 - x^4 - 15x^3 + x^2 + 38x + 24}{(x - 1)}$$

Using synthetic division to divide this polynomial by this binomial, what is the resulting quotient and remainder? Hint: The quotient's first term is one degree lower than the original polynomial, and the last bottom-row value is the remainder.

A	B
$2x^4 - 15x^2 - 14x + 24 + \frac{48}{(x-1)}$	$x^4 - 15x^2 - 14x + 24 + \frac{48}{(x-1)}$