Name

Synthetic Division Setup - Final Polynomial from the Quotient (with Hint)

1

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

3	1	-7	12	0
		3	-12	0
	1	-4	0	0

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: x^3-4x^2

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

2

$$\frac{x^4-5x^3+8x^2-4x}{(x+2)}$$

-2	1	-5	8	-4	0
		-2	14	-44	96
	1	-7	22	-48	96

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: $x^4-7x^3+22x^2-48x+96$

B: $x^3-7x^2+22x-48-\frac{96}{(x+2)}$

3

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

1	1	1	-3	-1	2
		1	2	-1	-2
	1	2	-1	-2	0

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

B: $2x^3+2x^2-x-2$

4

$$\frac{x^3+4x^2+5x+2}{(x-0)}$$

0	1	4	5	2
		0	0	0
	1	4	5	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: $x^2+4x+5-\frac{2}{(x-0)}$

B: $x^2+4x+5+\frac{2}{(x-0)}$

5

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

3	1	-1	-2	0
		3	6	12
	1	2	4	12

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: $x^3+2x^2+4x+12$

B: $2x^2+2x+4+\frac{12}{(x-3)}$

6

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

-3	1	0	-4	0
		-3	9	-15
	1	-3	5	-15

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

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

7

$$\frac{x^3-2x^2-11x+12}{(x-3)}$$

3	1	-2	-11	12
		3	3	-24
	1	1	-8	-12

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: $x^2+x-8-\frac{12}{(x-3)}$

B: $x^2+x-8+\frac{12}{(x-3)}$

8

$$\frac{x^4-10x^3+35x^2-50x+24}{(x-1)}$$

1	1	-10	35	-50	24
		1	-9	26	-24
	1	-9	26	-24	0

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: $x^4-9x^3+26x^2-24x$

B: $x^3-9x^2+26x-24+\frac{1}{(x-1)}$