Name

Synthetic Division - Divide by a Factor (No Remainder)

1 Use synthetic division to divide this polynomial by this binomial. What is the result?

$$\frac{x^4 - x^3 - 10x^2 - 8x}{(x - 0)}$$

A $x^3 - x^2 - 10x - 8$

B $x^3 - x^2 - 10x - 8 + \frac{1}{(x-0)}$

C $x^4 - x^3 - 10x^2 - 8x$

D $2x^3 - x^2 - 10x - 8$

2 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $x^4 - 5x^3 + 6x^2$

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

C $2x^3 - 5x^2 + 6x$

D $x^3 - 5x^2 + 6x + \frac{1}{(x-1)}$

3 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $x^3 + x^2$

B $2x^2 + x$

C $x^2 + x$

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

4 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $x^2 + 3x + \frac{1}{(x-0)}$

B $x^3 + 3x^2$

C $2x^2 + 3x$

D $x^2 + 3x$

5 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $x^2 - 2x + 1 + \frac{1}{(x-0)}$

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

C $2x^2 - 2x + 1$

D $x^2 - 2x + 1$

6 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $2x^3 + 3x^2 - 4x$

B $x^3 + 3x^2 - 4x$

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

D $x^4 + 3x^3 - 4x^2$

7 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

A $x^4 + x^3$

B $x^3 + x^2$

C $2x^3 + x^2$

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

8 Use synthetic division to divide this polynomial by this binomial. What is the result?

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

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

B $x^3 - x$

C $2x^2 - 1$

D $x^2 - 1$