

Name \_\_\_\_\_  
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Date \_\_\_\_\_  
Algebra 2

## *Dividing Polynomials With Synthetic Division*

Divide each of the following polynomials using synthetic division

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

2.  $\frac{x^2 + 7x + 5}{x + 1}$

3.  $\frac{x^2 - 10x - 21}{x + 2}$

4.  $\frac{-x^2 - 8x + 33}{x + 10}$

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

6.  $\frac{-3x^2 + 10x - 6}{x + 1}$

7.  $\frac{5x^4 + 17x^3 + 10x^2 - 5}{x + 3}$

8.  $\frac{2x^4 - 3x^3 - 4x^2 - 5}{x - 2}$

$$9. \frac{2x^3 - x - 2}{x - 2}$$

$$10. \frac{2x^3 - 3x^2 - 2x + 5}{x - 3}$$

$$11. \frac{x^3 + 5x^2 - 1}{x + 2}$$

$$12. \frac{x^4 - 32x^2 + 21x - 12}{x + 6}$$

$$13. \frac{2x^3 + 5x^2 - 31x - 84}{x + 3}$$

$$14. \frac{4x^3 + 12x^2 - 5}{x + 5}$$

$$15. \frac{2x^3 - 10x + 3}{x + 3}$$

$$16. \frac{5x^3 - 60}{x - 2}$$