

3.1 WS

Use long division to divide the polynomial.

1.
$$\frac{5x^3 + 6x^2 - 17x + 20}{x + 3}$$

2.
$$\frac{6x^3 + 15x^2 - 8x + 2}{x + 4}$$

3.
$$\frac{x^4 - 5x^2 + 3x - 1}{x - 2}$$

4.
$$\frac{2x^4 + 5x^3 - 6x^2 + 4x + 3}{2x^2 - x + 1}$$

Use synthetic division to divide the polynomial.

5. $\frac{4x^3 - 5x^2 + 6x - 7}{x - 2}$

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

7. $\frac{-10x^3 + 5x + x^5 - 1}{x - 4}$

Use synthetic division to determine whether the binomial is a factor of $P(x)$.

8. $P(x) = x^3 + 2x^2 - 5x - 6$, $x - 2$ 9. $P(x) = 2x^3 + x^2 - 3x - 1$, $x + 1$ 10. $P(x) = x^4 + x^3 - 2x^2 + 5x - 140$, $x + 4$