

3.1 WS 2

Use long division to divide the polynomial.

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

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

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

4. $\frac{3x^4 - 2x^3 - 7x^2 + x^5 - x + 4}{x^2 + 1}$

Use synthetic division to divide the polynomial.

5. $\frac{5x^3 + 6x^2 - 8x + 1}{x - 5}$

6. $\frac{-4x^2 + 6x^3 + 17}{x + 3}$

7. $\frac{-4x^2 + 8x^3 + 6x - 3}{x - \frac{1}{2}}$

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

8. $P(x) = x^3 + 4x^2 - 27x - 90, x + 6$ 9. $P(x) = 2x^3 - 8x^2 - 5x + 33, x - 3$ 10. $P(x) = x^4 - 12x^2 + 36, x - 3$