

**Algebra II**  
*Polynomial Functions*

1.  $f(x) = 2x^2 + x + 9$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

2.  $f(x) = 2x^3 + 9x^2 + 12x + 2$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

3.  $f(x) = 7.5x - 3.75$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

4.  $f(x) = 3(1.6)^{x+3}$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

5.  $f(x) = -x^4 + 4x^2 + 1$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

7.  $f(x) = -3x^2 + 7x - 12$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

6.  $f(x) = 2 + \left(\frac{1}{4}\right)^{x-1}$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

8.  $f(x) = x^3 - 3x + 1$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

How many zeros? \_\_\_\_\_

End Behavior: \_\_\_\_\_

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Continuity: \_\_\_\_\_

