

Graphing Polynomial Functions — Part B: Zeros and Multiplicity

List every real zero, state its multiplicity, and say whether the graph crosses or touches the x-axis.

Name: _____

Date: _____

Period: _____

Odd multiplicity → the graph crosses. Even multiplicity → the graph touches and turns back.

1. $f(x) = (x - 4)(x + 1)$

Zeros, multiplicity, and cross/touch:

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

Zeros, multiplicity, and cross/touch:

3. $f(x) = x(x - 5)^3$

Zeros, multiplicity, and cross/touch:

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

Zeros, multiplicity, and cross/touch:

5. $f(x) = -2(x - 3)(x + 2)^2(x - 1)$

Zeros, multiplicity, and cross/touch:

6. $f(x) = (x^2 - 9)(x + 4)$

Zeros, multiplicity, and cross/touch:

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