

Graph-Matching Remediation Activity

Match each graph to one equation from the bank and one feature description. Use zeros, multiplicity, degree, and leading coefficient; do not rely on the picture alone.

Equation bank - use each equation once

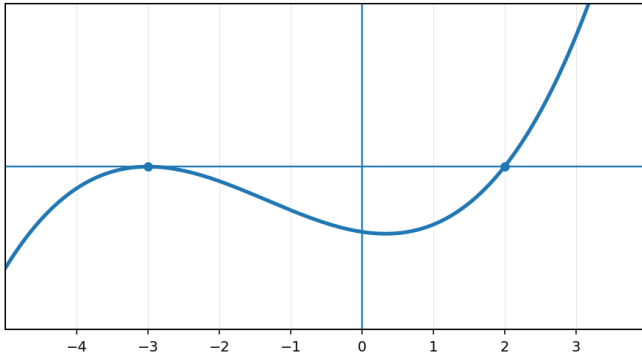
I. $y = -(x - 2)^2(x + 3)^2$

II. $y = (x + 3)(x - 2)$

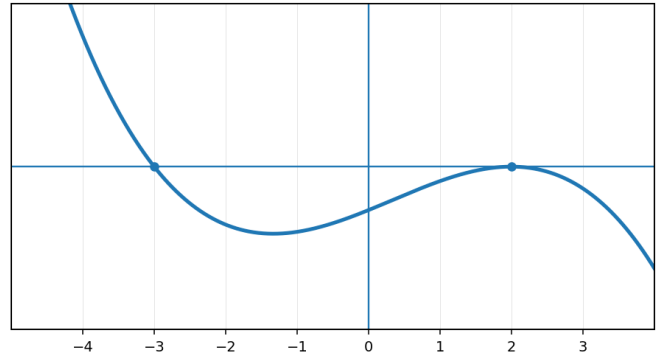
III. $y = (x + 3)^2(x - 2)$

IV. $y = -(x + 3)(x - 2)^2$

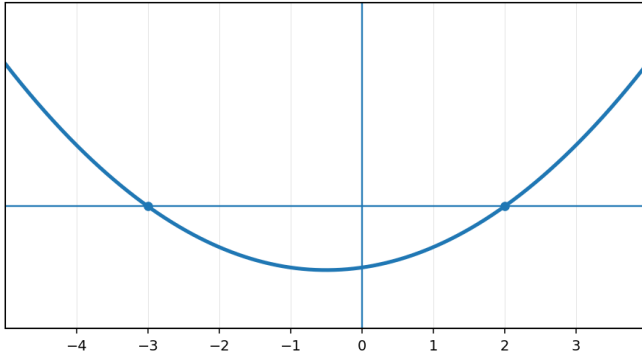
Graph A



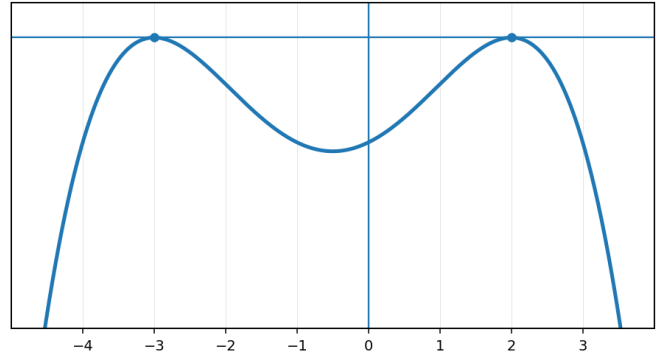
Graph B



Graph C



Graph D



1. Crosses at both $x = -3$ and $x = 2$; both ends rise. Graph: ____ Equation: ____
2. Touches at both $x = -3$ and $x = 2$; both ends fall. Graph: ____ Equation: ____
3. Crosses at $x = -3$, touches at $x = 2$; left up/right down. Graph: ____ Equation: ____
4. Touches at $x = -3$, crosses at $x = 2$; left down/right up. Graph: ____ Equation: ____

Explain one match using a zero, multiplicity, and end-behavior statement:

Graph-Matching Remediation Activity - Teacher Key

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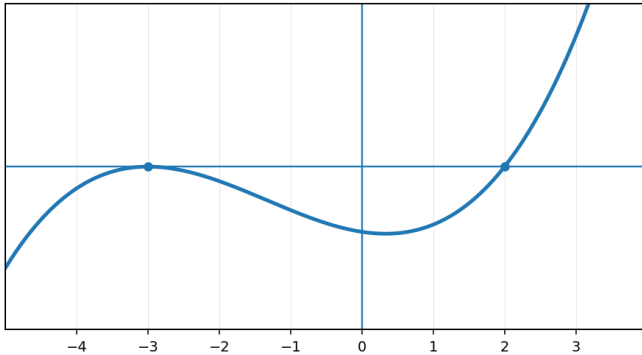
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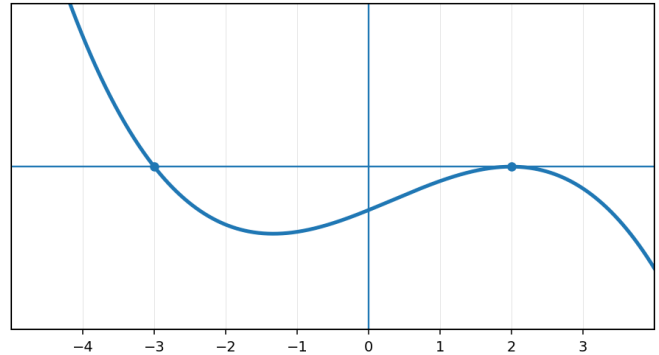
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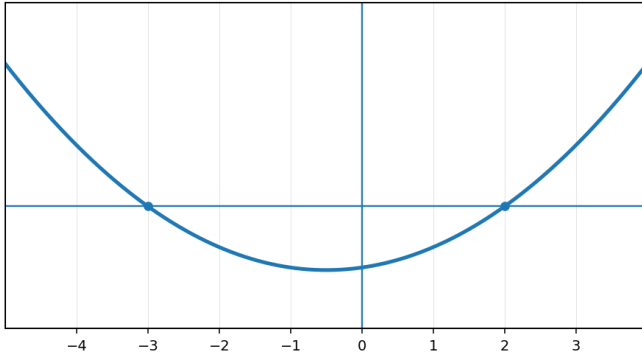
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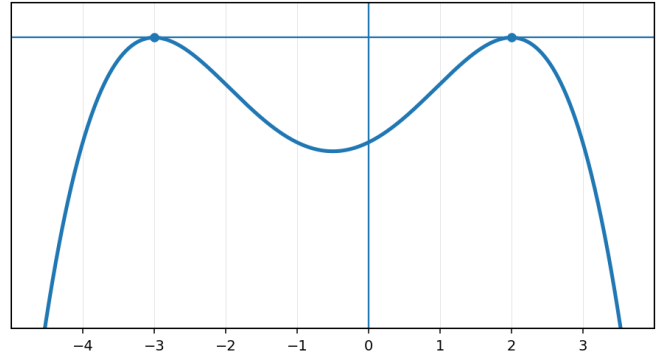
Graph B



Graph C



Graph D



Answer key

1. Graph C, Equation II - two simple zeros; positive even degree, so both ends rise.
2. Graph D, Equation I - both zeros have even multiplicity; negative even degree, so both ends fall.
3. Graph B, Equation IV - odd multiplicity at -3, even multiplicity at 2; negative cubic end behavior.
4. Graph A, Equation III - even multiplicity at -3, odd multiplicity at 2; positive cubic end behavior.

Teacher check: require one multiplicity statement and one end-behavior statement, not a visual guess.

Suggested Follow-Up Checks

Foundations: rewrite one polynomial with a missing term and evaluate at a negative input.

Operations: give one subtraction problem and one binomial-by-trinomial product; watch sign distribution.