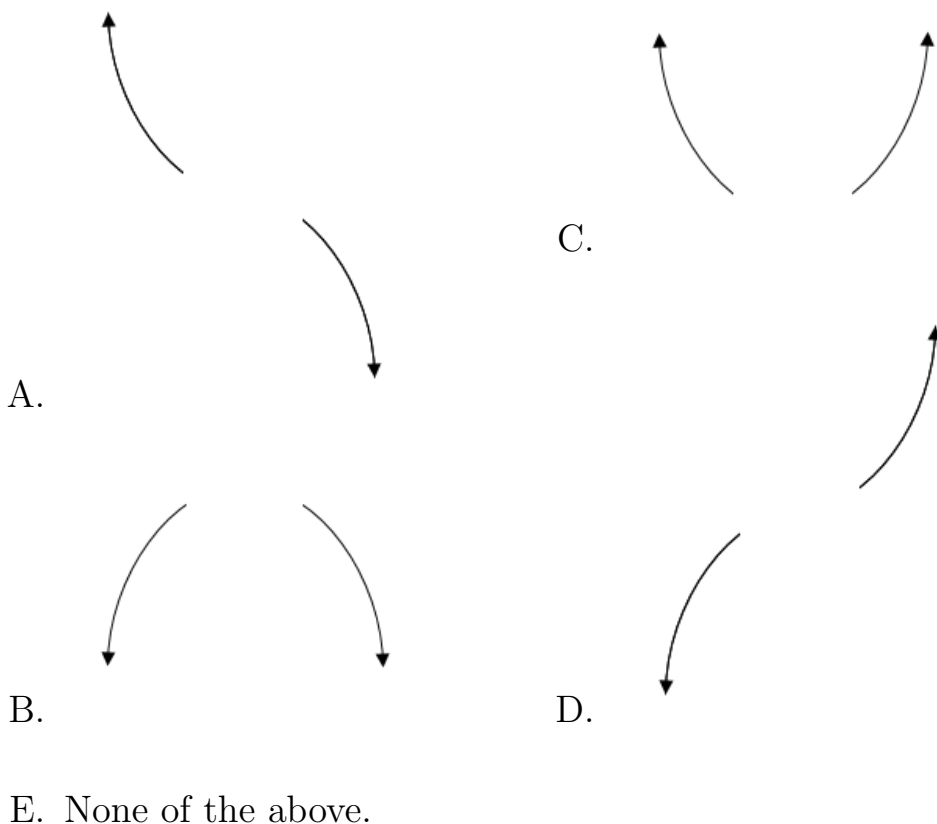


1. Describe the end behavior of the polynomial below.

$$f(x) = -8(x + 8)^2(x - 8)^5(x - 4)^4(x + 4)^6$$



2. Construct the lowest-degree polynomial given the zeros below. Then, choose the intervals that contain the coefficients of the polynomial in the form $ax^3 + bx^2 + cx + d$.

$$\frac{3}{5}, \frac{2}{5}, \text{ and } \frac{-3}{2}$$

- A. $a \in [45, 52], b \in [118, 126], c \in [83, 94],$ and $d \in [15, 27]$
- B. $a \in [45, 52], b \in [22, 27], c \in [-66, -59],$ and $d \in [-25, -16]$
- C. $a \in [45, 52], b \in [84, 90], c \in [-4, 4],$ and $d \in [-25, -16]$
- D. $a \in [45, 52], b \in [22, 27], c \in [-66, -59],$ and $d \in [15, 27]$
- E. $a \in [45, 52], b \in [-27, -22], c \in [-66, -59],$ and $d \in [-25, -16]$

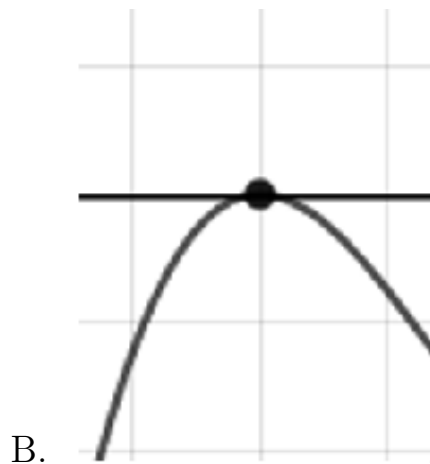
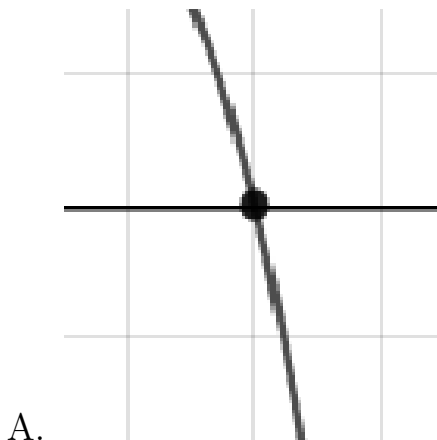
3. Construct the lowest-degree polynomial given the zeros below. Then, choose the intervals that contain the coefficients of the polynomial in the form $x^3 + bx^2 + cx + d$.

$$2 + 3i \text{ and } x - 1$$

- A. $b \in [-1.9, 1.3], c \in [-2.08, -1.93]$, and $d \in [-3.61, -2.43]$
B. $b \in [2.3, 4.1], c \in [7.06, 9.19]$, and $d \in [-13.04, -11.95]$
C. $b \in [-3.5, -0.9], c \in [7.06, 9.19]$, and $d \in [12.15, 13.07]$
D. $b \in [-1.9, 1.3], c \in [-1.85, -0.7]$, and $d \in [-2.24, -0.56]$
E. None of the above.

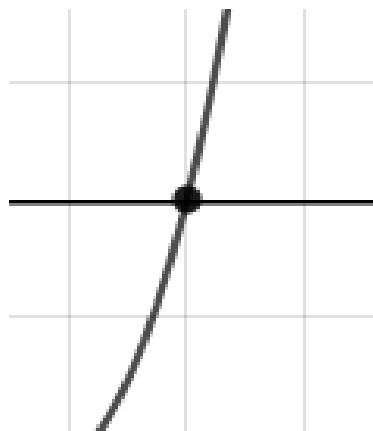
4. Describe the zero behavior of the zero $x = 3$ of the polynomial below.

$$f(x) = 7(x - 3)^9(x + 3)^{12}(x + 2)^6(x - 2)^{10}$$





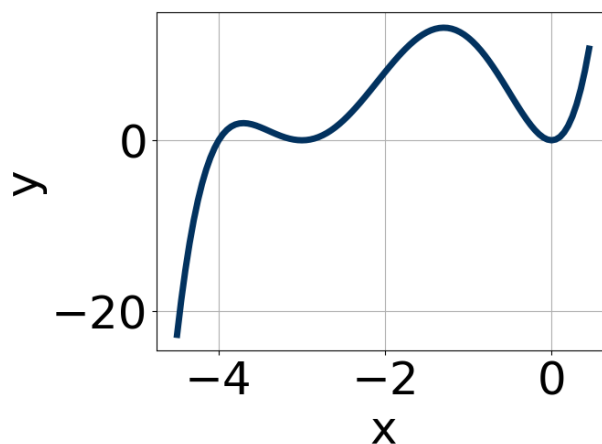
C.



D.

E. None of the above.

5. Which of the following equations *could* be of the graph presented below?



- A. $7x^8(x+3)^5(x+4)^6$
B. $6x^{10}(x+3)^8(x+4)^{11}$
C. $-12x^6(x+3)^6(x+4)^9$
D. $-16x^4(x+3)^{10}(x+4)^6$
E. $13x^{10}(x+3)^5(x+4)^7$
-