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

$$4 - 5i \text{ and } 1$$

A. $b \in [5, 18], c \in [42, 60],$ and $d \in [39, 50]$

B. $b \in [-4, 6], c \in [-3, 7],$ and $d \in [-11, 1]$

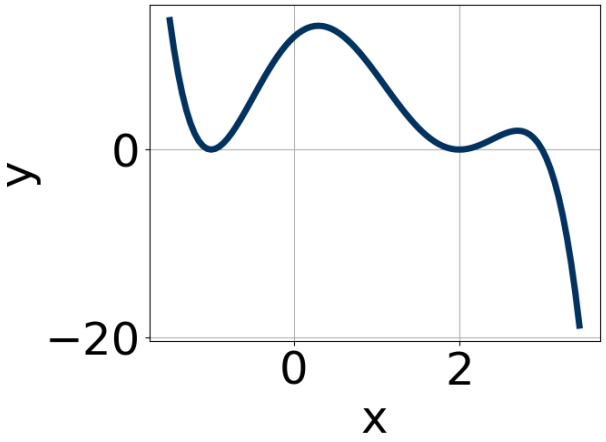
C. $b \in [-12, 0], c \in [42, 60],$ and $d \in [-50, -33]$

D. $b \in [-4, 6], c \in [-9, 0],$ and $d \in [3, 5]$

E. None of the above.

---

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



A. $-8(x+1)^6(x-2)^5(x-3)^9$

B. $-18(x+1)^8(x-2)^5(x-3)^6$

C. $4(x+1)^6(x-2)^{10}(x-3)^8$

D. $18(x+1)^4(x-2)^{10}(x-3)^{11}$

E. $-12(x+1)^6(x-2)^6(x-3)^{11}$

---

3. Construct the lowest-degree polynomial given the zeros below. Then, choose the intervals that contain the coefficients of the polynomial in

the form $ax^3 + bx^2 + cx + d$.

$$\frac{-6}{5}, 3, \text{ and } \frac{7}{5}$$

A. $a \in [19, 30], b \in [-150, -138], c \in [231, 241],$ and $d \in [-130, -122]$

B. $a \in [19, 30], b \in [-90, -74], c \in [-32, -21],$ and $d \in [123, 132]$

C. $a \in [19, 30], b \in [73, 86], c \in [-32, -21],$ and $d \in [-130, -122]$

D. $a \in [19, 30], b \in [-90, -74], c \in [-32, -21],$ and $d \in [-130, -122]$

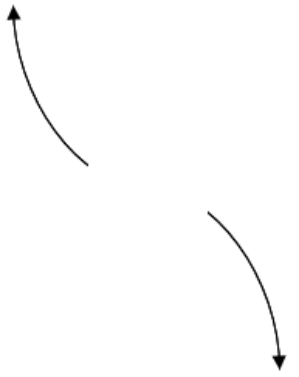
E. $a \in [19, 30], b \in [5, 11], c \in [-159, -150],$ and $d \in [123, 132]$

---

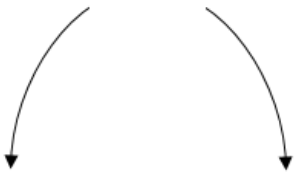
4. Describe the end behavior of the polynomial below.

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

A.

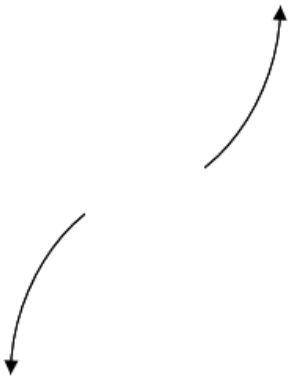


B.



C.

D.

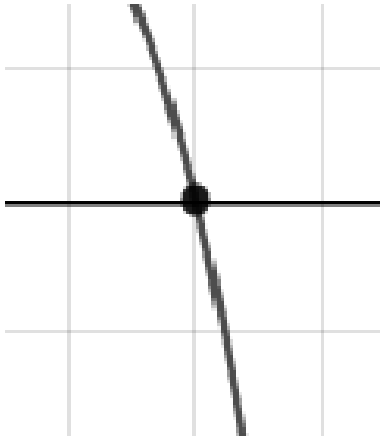


E. None of the above.

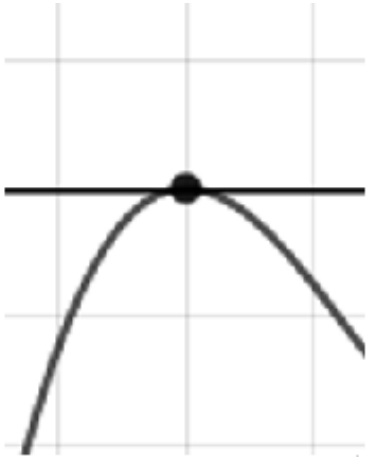
---

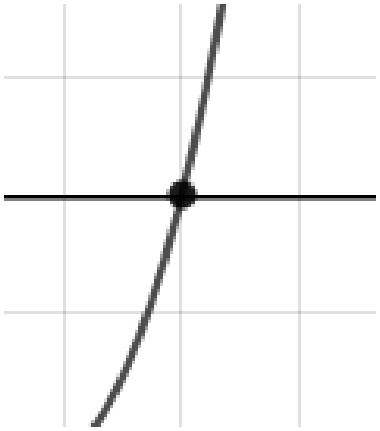
5. Describe the zero behavior of the zero $x = 2$ of the polynomial below.

$$f(x) = -6(x+4)^{10}(x-4)^{8}(x-2)^{11}(x+2)^{6}$$

A. 

C. 

B. 

D. 

E. None of the above.