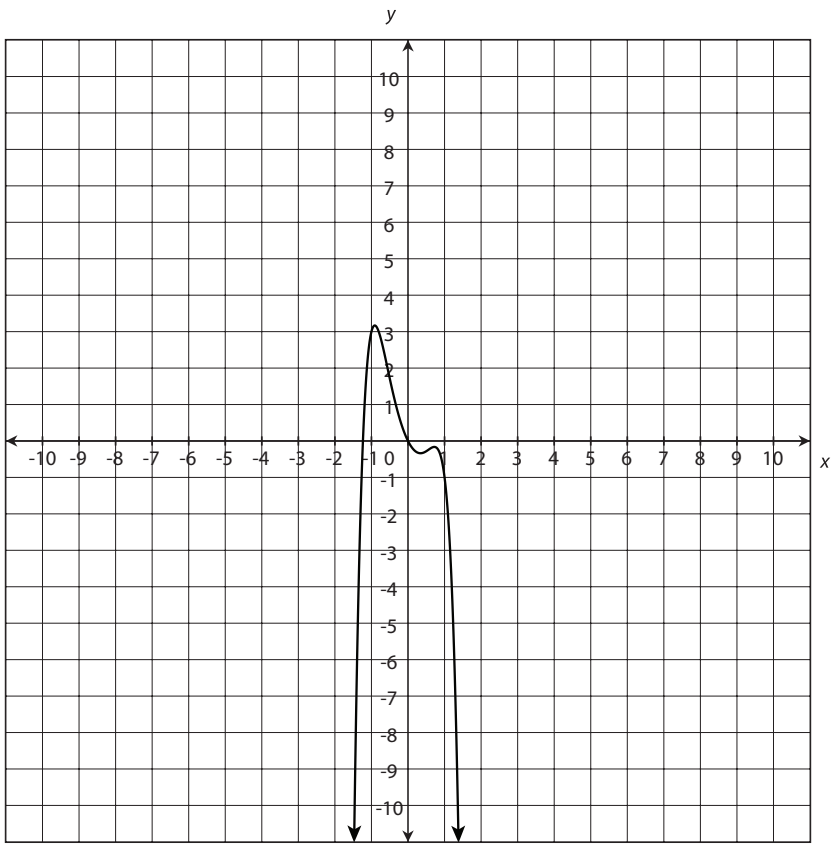
Graphing Polynomial Functions

Pre-Assessment

Circle the letter of the best answer.

1. What must be true about the degree and leading coefficient of the graphed polynomial?



   a. The polynomial is an odd-degree polynomial and has a positive coefficient.

   b. The polynomial is an odd-degree polynomial and has a negative coefficient.

   c. The polynomial is an even-degree polynomial and has a positive coefficient.

   d. The polynomial is an even-degree polynomial and has a negative coefficient.

2. What is the remainder when $(x^3 - 3x^2 + 6x - 5)$ is divided by $(x - 2)$?

   a. –37

   b. 3

   c. –7

   d. 5

continued

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3. Which polynomial function has zeros of –3, 1, and 2?

   a. $f(x) = x^3 - 7x + 6$

   b. $f(x) = x^3 - 7x - 6$

   c. $f(x) = x^3 + 6x^2 + 11x + 6$

   d. $f(x) = x^3 - 6x^2 + 11x - 6$

4. One root of the equation $x^3 - 5x^2 + 11x - 15$ is 3. What are the other two roots?

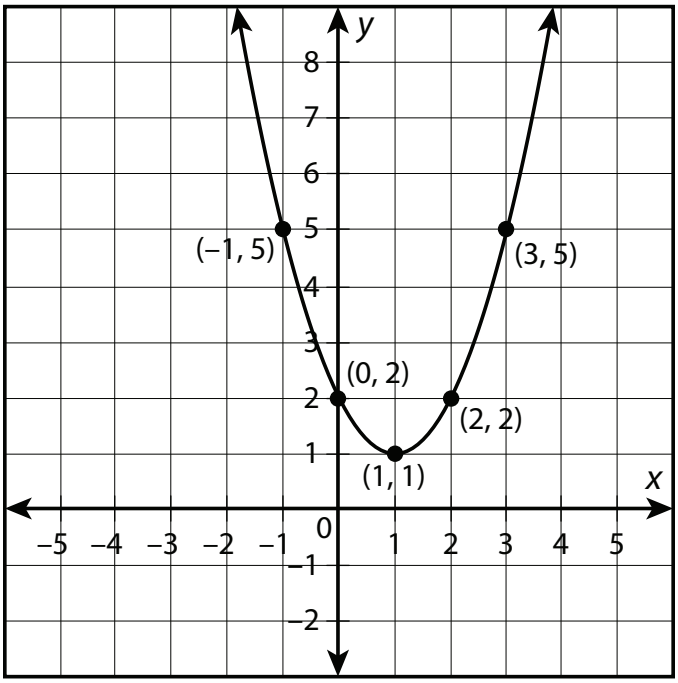
   a. $2 + i$ and $2 - i$

   b. $-1 + 2i$ and $-1 - 2i$

   c. $1 + 2i$ and $1 - 2i$

   d. $-2 + i$ and $-2 - i$

5. Choose the equation that matches the graph.



   a. $y = (x - 1)^2 + 1$

   b. $y = (x + 1)^2 + 1$

   c. $y = (x + 1)^2 - 1$

   d. $y = (x - 1)^2 - 1$

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