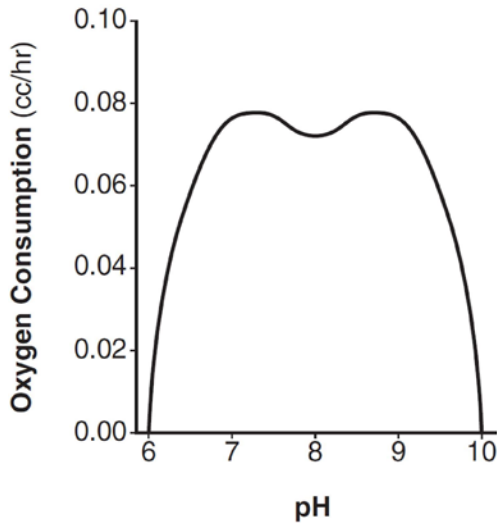


F.IF.B.4: Graphing Polynomial Functions

- 1 There was a study done on oxygen consumption of snails as a function of pH, and the result was a degree 4 polynomial function whose graph is shown below.



Which statement about this function is *incorrect*?

- 1) The degree of the polynomial is even.
 - 2) There is a positive leading coefficient.
 - 3) At two pH values, there is a relative maximum value.
 - 4) There are two intervals where the function is decreasing.
- 2 A polynomial equation of degree three, $p(x)$, is used to model the volume of a rectangular box. The graph of $p(x)$ has x intercepts at -2 , 10 , and 14 . Which statements regarding $p(x)$ could be true?
- A. The equation of $p(x) = (x - 2)(x + 10)(x + 14)$.
 - B. The equation of $p(x) = -(x + 2)(x - 10)(x - 14)$.
 - C. The maximum volume occurs when $x = 10$.
 - D. The maximum volume of the box is approximately 56.
- 1) A and C
 - 2) A and D
 - 3) B and C
 - 4) B and D

F.IF.B.4: Graphing Polynomial Functions**Answer Section**

1 ANS: 2 REF: 061620aii

2 ANS: 4

The maximum volume of $p(x) = -(x + 2)(x - 10)(x - 14)$ is about 56, at $x = 12.1$

REF: 081712aii