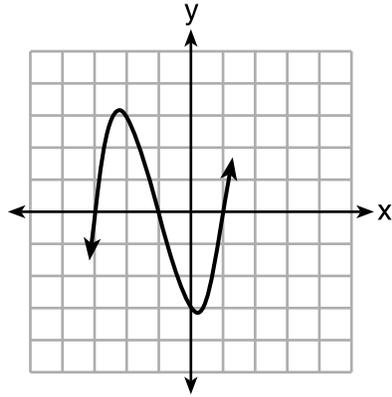


18 A cubic function is graphed on the set of axes below.

Use this space for
computations.



Which function could represent this graph?

(1) $f(x) = (x - 3)(x - 1)(x + 1)$

(2) $g(x) = (x + 3)(x + 1)(x - 1)$

(3) $h(x) = (x - 3)(x - 1)(x + 3)$

(4) $k(x) = (x + 3)(x + 1)(x - 3)$

Use this space for computations.

19 Mrs. Allard asked her students to identify which of the polynomials below are in standard form and explain why.

I. $15x^4 - 6x + 3x^2 - 1$

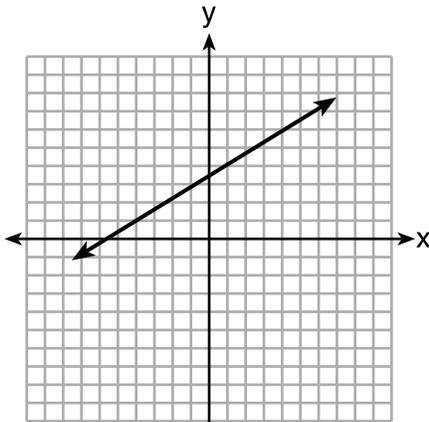
II. $12x^3 + 8x + 4$

III. $2x^5 + 8x^2 + 10x$

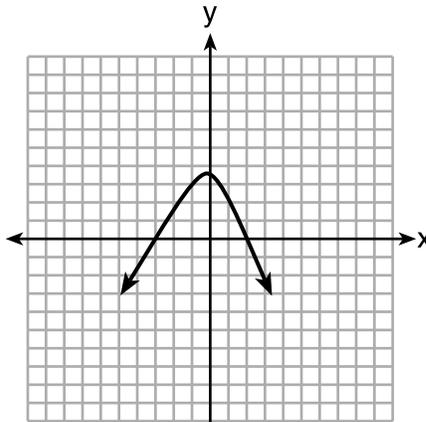
Which student's response is correct?

- (1) Tyler said I and II because the coefficients are decreasing.
- (2) Susan said only II because all the numbers are decreasing.
- (3) Fred said II and III because the exponents are decreasing.
- (4) Alyssa said II and III because they each have three terms.

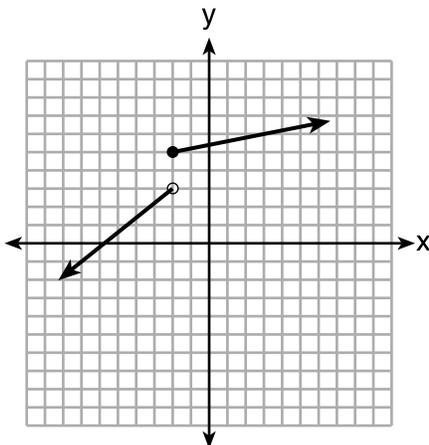
20 Which graph does *not* represent a function that is always increasing over the entire interval $-2 < x < 2$?



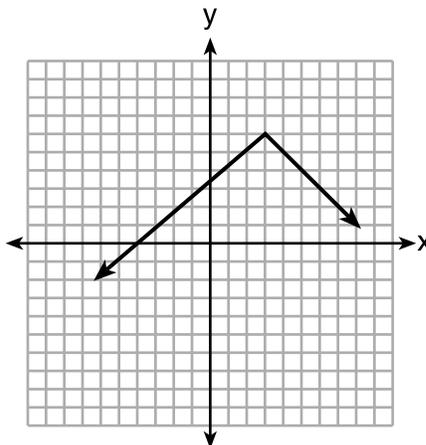
(1)



(3)



(2)



(4)

**Use this space for
computations.**

21 At an ice cream shop, the profit, $P(c)$, is modeled by the function $P(c) = 0.87c$, where c represents the number of ice cream cones sold. An appropriate domain for this function is

- (1) an integer ≤ 0 (3) a rational number ≤ 0
(2) an integer ≥ 0 (4) a rational number ≥ 0

22 How many real-number solutions does $4x^2 + 2x + 5 = 0$ have?

- (1) one (3) zero
(2) two (4) infinitely many

23 Students were asked to write a formula for the length of a rectangle by using the formula for its perimeter, $p = 2\ell + 2w$. Three of their responses are shown below.

I. $\ell = \frac{1}{2}p - w$

II. $\ell = \frac{1}{2}(p - 2w)$

III. $\ell = \frac{p - 2w}{2}$

Which responses are correct?

- (1) I and II, only (3) I and III, only
(2) II and III, only (4) I, II, and III

24 If $a_n = n(a_{n-1})$ and $a_1 = 1$, what is the value of a_5 ?

- (1) 5 (3) 120
(2) 20 (4) 720
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