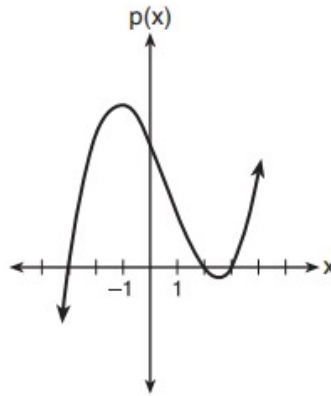


Algebra 2 Quick Quiz 11152022

Question 1.

The graph of the function $p(x)$ is sketched below



Which equation could represent $p(x)$?

- (1) $p(x) = (x^2 - 9)(x - 2)$
- (2) $p(x) = x^3 - 2x^2 + 9x + 18$
- (3) $p(x) = (x^2 + 9)(x - 2)$
- (4) $p(x) = x^3 + 2x^2 - 9x - 18$

Question 2

Cheap and Fast gas station is conducting a consumer satisfaction survey. Which method of collecting data would most likely lead to a biased sample?

- (1) interviewing every 5th customer to come into the station
- (2) interviewing customers chosen at random by a computer at the checkout
- (3) interviewing customers who call an 800 number posted on the customers' receipts
- (4) interviewing every customer who comes into the station on a day of the week chosen at random out of a hat

Question 3.

The expression $6xi^3(-4xi + 5)$ is equivalent to

- (1) $2x - 5i$
- (2) $-24x^2 - 30xi$
- (3) $-24x^2 + 30x - i$
- (4) $26x - 24x^2i - 5i$

Question 4.

Given the parent function $p(x) = \cos x$, which phrase best describes the transformation used to obtain the graph of $g(x) = \cos(x + a) - b$, if a and b are positive constants?

- (1) right a units, up b units
- (2) right a units, down b units
- (3) left a units, up b units
- (4) left a units, down b units

Question 5.

The solution to the equation $4x^2 + 98 = 0$ is

- (1) ± 7
- (2) $\pm 7i$
- (3) $\pm \frac{7\sqrt{2}}{2}$
- (4) $\pm \frac{7i\sqrt{2}}{2}$

Question 6.

A manufacturing company has developed a cost model, $C(x) = 0.15x^3 + 0.01x^2 + 2x + 120$, where x is the number of items sold, in thousands. The sales price can be modeled by $S(x) = 30 - 0.01x$. Therefore, revenue is modeled by $R(x) = x \cdot S(x)$.

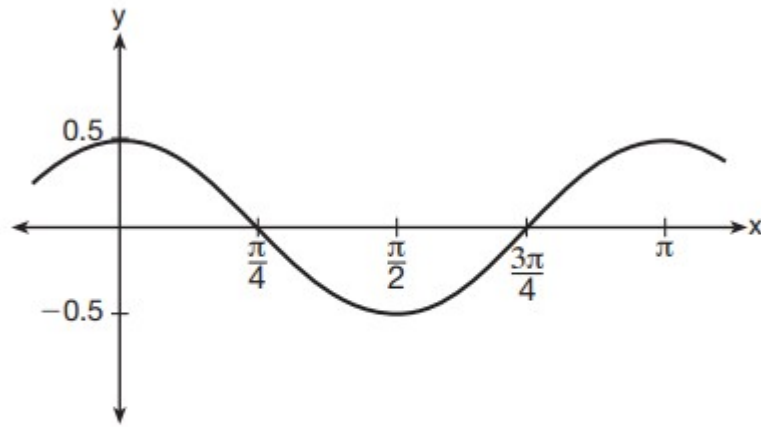
The company's profit, $P(x) = R(x) - C(x)$, could be modeled by

- (1) $0.15x^3 + 0.02x^2 - 28x + 120$
- (2) $-0.15x^3 - 0.02x^2 + 28x - 120$
- (3) $-0.15x^3 + 0.01x^2 - 2.01x - 120$
- (4) $-0.15x^3 + 32x + 120$

Bonus Question

Question 11

Which equation is represented by the graph shown below?



(1) $y = \frac{1}{2} \cos 2x$

(3) $y = \frac{1}{2} \cos x$

(2) $y = \cos x$

(4) $y = 2 \cos \frac{1}{2}x$