

Quiz #2

Directions: Carefully read each question below and answer to the best of your ability in the space provided. You **MUST** show your work to receive full credit! Your answer to problem # 2 should be written in a clear and concise manner using a combination of complete sentences and symbolic expressions. An answer without explanation or that is poorly presented may not receive full credit.

1. (1 point) Which of the following is the value of $\sin^{-1}(\sin(3\pi))$?
 - A. π
 - B. 3π
 - C. 0**
 - D. $-\pi$
 - E. None of the above
2. (2 points) For an object with position $f(x) = 2x^2 + 5$ meters after x seconds, find the average velocity during the interval from a to b seconds. Simplify your answer.

Solution:

$$\begin{aligned} \text{Avg. velocity} &= \frac{f(b) - f(a)}{b - a} \\ &= \frac{(2b^2 + 5) - (2a^2 + 5)}{b - a} \\ &= \frac{2b^2 + 5 - 2a^2 - 5}{b - a} \\ &= \frac{2b^2 - 2a^2}{b - a} \\ &= \frac{2(b^2 - a^2)}{b - a} \\ &= \frac{2(b - a)(b + a)}{b - a} \\ &= \boxed{2(b + a)} \end{aligned}$$

Name: _____

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|-----------|---|---|-------|
| Question: | 1 | 2 | Total |
| Points: | 1 | 2 | 3 |
| Score: | | | |