1. True or False?

$$\sum_{k=0}^{4}(k^2 + (k+1)^2) = 25 + \sum_{k=1}^{4}2k^2$$

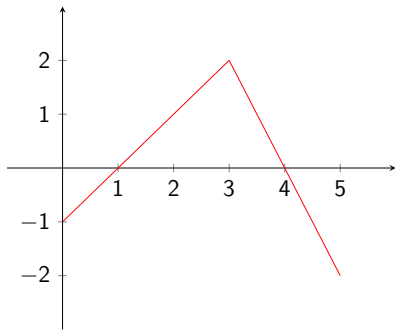2. What is $\displaystyle\int_{-2}^{2} (2 - |x|) \, dx$?

(A) 2

(B) 4

(C) 8

(D) None of the above

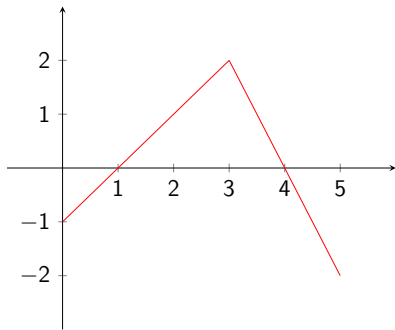3. The graph of a function f is depicted to the right. What is $\int_0^5 f(x)\,dx$?

(A) 1

(B) 3/2

(C) 2

(D) None of the above

4. The graph of a function f is depicted to the right. What is $\int_0^5 |f(x)|\, dx$?

(A) 7/2

(B) 4

(C) 9/2

(D) None of the above

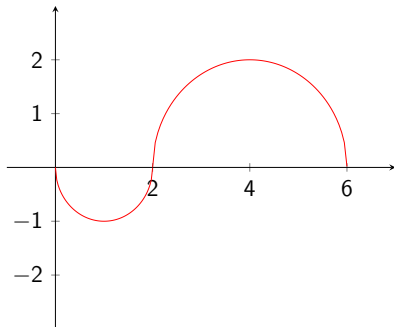5. The graph of a function f is depicted to the right. What is $\int_0^6 f(x)\,dx$?

(A) $\pi/2$

(B) $3\pi/2$

(C) $5\pi/2$

(D) None of the above

Note. The graph of f on $[0, 2]$ is a semicircle, as is the graph on $[2, 6]$.

6.   True or False?

Suppose f is an odd function. Then it must be the case that

$$\int_{-3}^{3} f(x) = 0.$$

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Follow-up. What can be said if f is even?

7. Suppose f is a function such that $f'(x) > 0$ for all x, that $f(0) = 0$, that $\displaystyle\int_{-1}^{0} f(x)\,dx = -7$ and that $\displaystyle\int_{0}^{1} f(x)\,dx = 3$. What can be said about the following definite integral?

$$\int_{-1}^{1} |f(x)|\,dx$$

(A) It equals -4

(B) It equals 10.

(C) It equals 4.

(D) There isn't enough information to say anything specific.