

Problem Set 2

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Problem 1

If R_n is the Riemann sum for $f(x) = 4 + \frac{x^2}{8}, 0 \leq x \leq 4$ with n subintervals and taking sample points to be the right end points, then $R_n =$

Problem 2

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{1}{n} \cos \left(1 + \frac{i}{n} \right)^2 =$$

(A) $\int_1^2 \cos(1 + x^2) dx.$

(B) $\int_1^2 \cos(x^2) dx.$

(C) $\int_1^2 \cos^2(x) dx.$

(D) $\int_0^1 \cos(x^2) dx.$

(E) $\int_0^1 \cos(1 + x^2) dx.$

Problem 3

In the figure shown, regions A and B are bounded by the graph of a function f and the x -axis. If the area of region A is $\frac{1}{6}$ and the area of the region B is $\frac{3}{8}$, then

$$\int_0^4 f(x)dx + \int_0^4 |f(x)|dx =$$

