

NAME: \_\_\_\_\_ ID: \_\_\_\_\_ Section: \_\_\_\_\_

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**Exercise 1** (5 points)

Express the limit  $\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{i}{n^2} \cos\left(\frac{i\pi}{n}\right)$  as a definite integral.

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**Exercise 2** (5 points)

Evaluate the definite integral  $\int_0^4 (x + \sqrt{16 - x^2}) dx$  [Hint: interpreted as area]

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**Exercise 1** (6 points)

Express the limit  $\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{i}{n^2} \sin\left(\frac{i\pi}{n}\right)$  as a definite integral

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**Exercise 2** (5 points)

Evaluate the definite integral  $\int_{-5}^0 (-x + \sqrt{25 - x^2}) dx$  [Hint: interpreted as area]