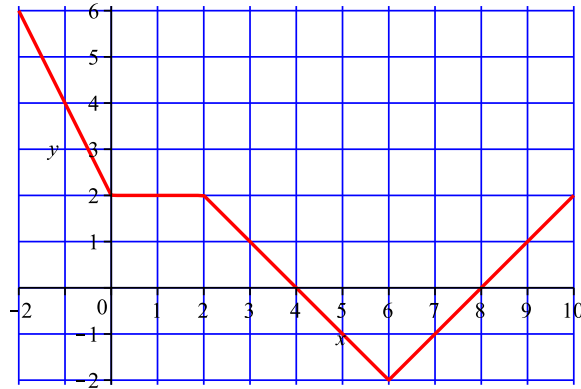


MAT126, Paper Homework “Riemann”

1. Let $f(x)$ be given by the function whose graph is shown below.



- (a) Calculate $\int_{-2}^2 f(x) dx$. Justify your answer.

- (b) Calculate $\int_0^8 f(x) dx$. Justify your answer.

2. Write a definite integral which corresponds to the limit

$$\lim_{n \rightarrow \infty} \frac{2}{n} \sum_{k=1}^n \left(2 + \frac{k}{n}\right) \ln \left(2 + \frac{k}{n}\right).$$

You **do not** have to evaluate the integral.