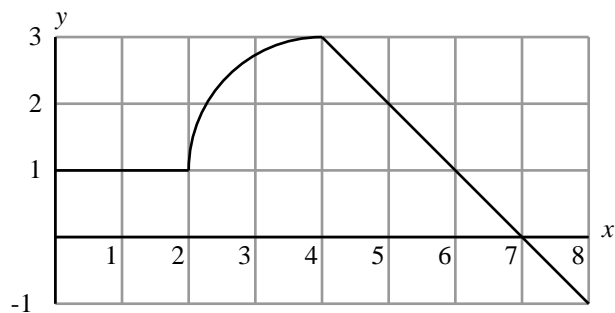


Fundamental Theorem of Calculus problems

1. The diagram shows a graph of the function f on the interval $[0, 8]$. Let

$$g(x) = \int_0^x f(t) dt.$$



- (a) Find the following values:

- i. $g(2)$
- ii. $g(6)$
- iii. $g'(1)$
- iv. $g'(4)$

Assume the curved part of the graph is a quarter circle.

- (b) Find the maximum value of g on $[0, 8]$.

2. Let $F(x) = \int_1^{x^4} \cos(t) dt$. Find $F'(x)$.