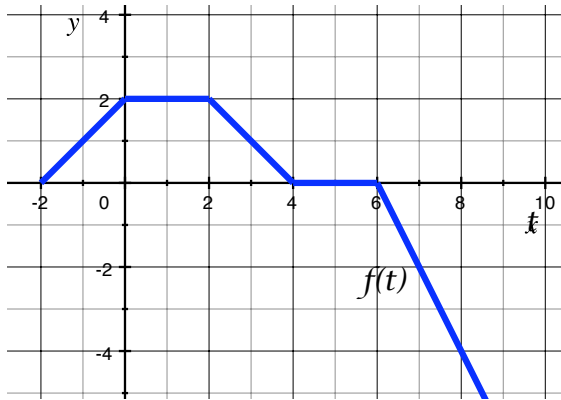


Math 152 Quiz #2
January 21, 2009

Name: _____

Show all work and simplify your answers as much as possible.

1. The graph of $f(t)$ is given below. Define $g(x) = \int_{-2}^x f(t) dt$ for $-2 \leq x \leq 8$.



(a) (1 pt.) Find $g(8)$.

(b) (1 pt.) What is the absolute maximum **value** that $g(x)$ attains for $-2 \leq x \leq 8$?

2. (2 pts.) Find the area between the curve $f(x) = \frac{1}{3\sqrt{x}} + 2$ and the x -axis from $x = 1$ to $x = 4$.

3. (3 pts.) A European swallow flies along a straight path with an airspeed velocity given by $v(t) = 8 - 4t$ in km/hour at t hours for $t \geq 0$.
What is the distance traveled by the swallow after 5 hours? (Include units in your answer.)

4. (2 pts.) Evaluate $\int x^2(8x + 1) dx$.

5. (1 pt.) Evaluate $\int_{-4}^{-4} \sqrt{16 - x^2} dx$.