

MA 16010 Quiz 12

Lesson 30-33

22 April 2022

Problem 1. If $\int_{-1}^2 f(x)dx = 8$ and $\int_0^2 f(x)dx = 12$, find $\int_{-1}^0 f(x)dx$.

Problem 2. The velocity function, in meters per minute, of a particle moving along a straight line is

$$v(t) = 2t - \frac{1}{2}$$

Find the time t when the displacement is zero after the particle starts moving. The answer is *not* $t = 0$.

Problem 3. Find the area of the region bounded by the graphs of the following equations

$$y = 2e^x, \quad y = 0, \quad x = 2, \quad \text{and} \quad x = 7.$$

Give the exact answer, not a decimal.