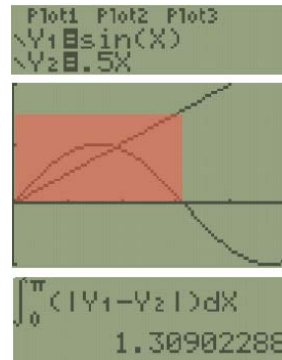


41. Find the area between $y = \sin x$ and $y = \frac{1}{2}x$ on the interval $[0, \pi]$.

(A) -1.309
 (B) -0.467
 (C) 1.309
 (D) 1.574



42. If the velocity of a particle in meters per second is given by $v(t) = t^2 - 7t + 10$, $t \geq 0$, find the distance that the particle travels in the time interval $[0, 3]$.

(A) 7
 (B) 9.833
 (C) 10.666
 (D) 16

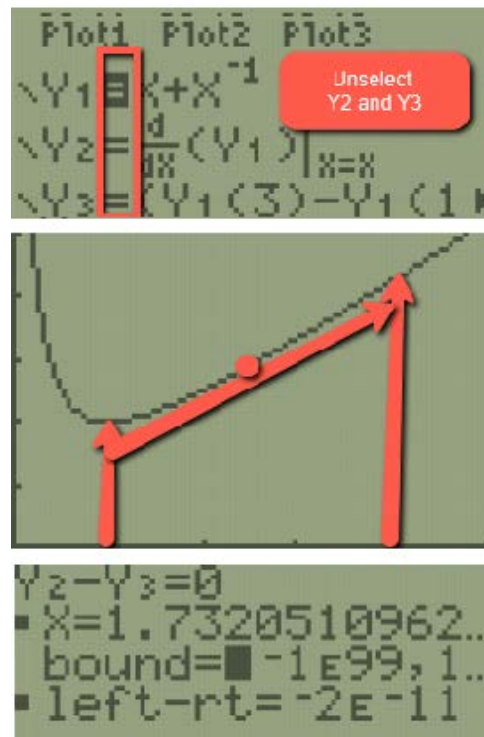


43. Find y if $\frac{dy}{dx} = \frac{1}{(x-1)^2}$ and $y(0) = 10$.

(A) $y = \frac{1}{(x-1)^3} + 10$
 (B) $y = \frac{1}{(x-1)^3} + 9$
 (C) $y = -\frac{1}{x-1} + 10$
 (D) $y = -\frac{1}{x-1} + 9$

44. Find the value of c that is guaranteed by the Mean Value Theorem for $f(x) = x + \frac{1}{x}$ on the interval $[1, 3]$.

- (A) 1.414
- (B) 1.155
- (C) 1.732
- (D) There is no value of c .



45. Approximate the area between the parabola $y = 6x - x^2$ and the x -axis using four right-hand rectangles on the interval $[0, 6]$.

- (A) 9
- (B) 23.625
- (C) 33.75
- (D) 36

