MTH 124 - Quiz 8
Version 1
25 October 2013

Please answer the questions in the space provided. If you run out of room, use the back of the page. Show all your work to receive credit. No books or note sheets are allowed for this quiz.

Name: _____

1. (1 point) Use a calculator to find the definite integral

$$\int_1^3 2^x dx$$
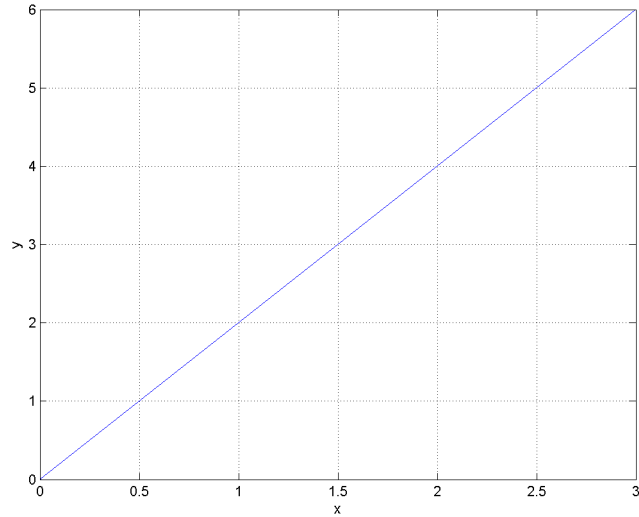
accurate to three decimal places.

2. (3 points) The velocity of a particle is given in the table below. The units of time t are seconds, and the units of velocity $v(t)$ are meters per second.

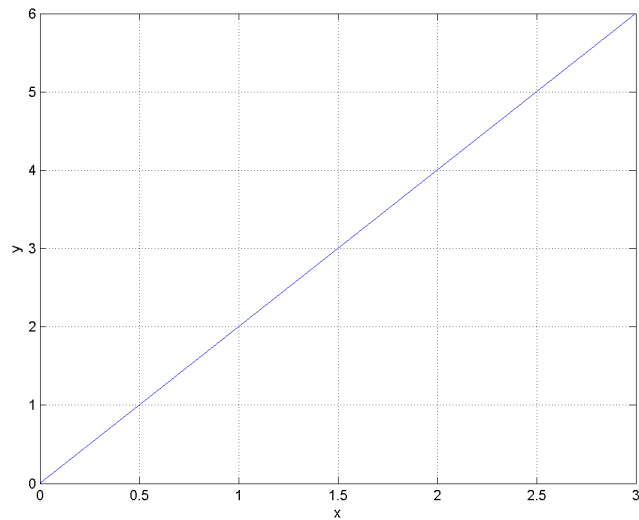| t	0	5	10
$v(t)$	2	18	20

(a) Give a lower estimate for the change in the particle's position, and give units.

(b) Give an upper estimate for the change in position.

3. (6 points) Consider the function $y = 2t$ for $0 \leq t \leq 3$.

(a) (2 points) Use left hand sums with $n = 3$ to estimate the area under the graph, and draw the rectangles whose areas represent this sum.

(b) (2 points) Use right hand sums with $n = 3$ to estimate the area under the graph, and draw the rectangles whose areas represent this sum.

(c) (2 points) Find the exact value of the area under the curve.

Please answer the questions in the space provided. If you run out of room, use the back of the page. Show all your work to receive credit. No books or note sheets are allowed for this quiz.

Name: _____

1. (1 point) Use a calculator to find the definite integral
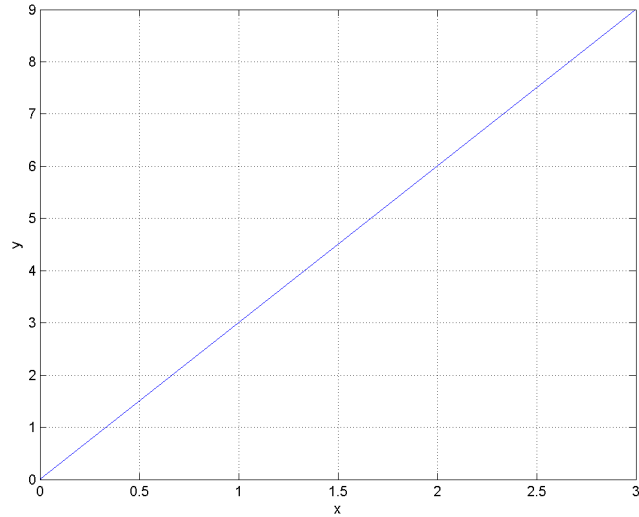
$$\int_1^3 3^x dx$$

accurate to three decimal places.

2. (3 points) The velocity of a particle is given in the table below. The units of time t are seconds, and the units of velocity $v(t)$ are meters per second.

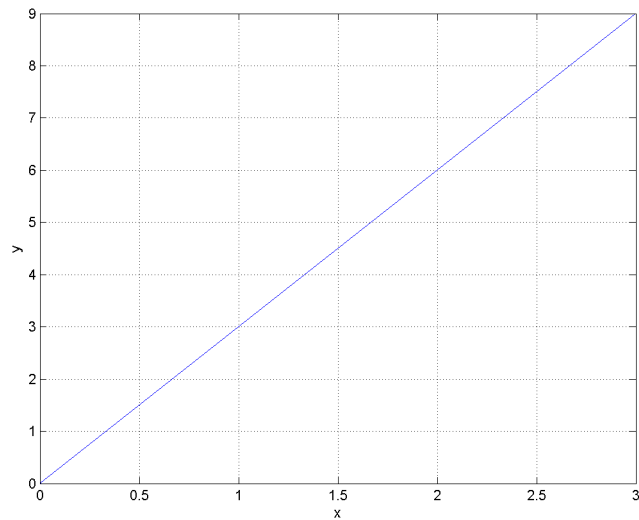| t	0	5	10
$v(t)$	3	12	22

(a) Give a lower estimate for the change in the particle's position, and give units.

(b) Give an upper estimate for the change in position.

3. (6 points) Consider the function $y = 3t$ for $0 \le t \le 3$.

(a) (2 points) Use left hand sums with $n = 3$ to estimate the area under the graph, and draw the rectangles whose areas represent this sum.

(b) (2 points) Use right hand sums with $n = 3$ to estimate the area under the graph, and draw the rectangles whose areas represent this sum.

(c) (2 points) Find the exact value of the area under the curve.