

## Math 132, Final Exam

May 9, 2001

This exam will have 18 multiple choice questions worth 5 points each and 5 True/False questions worth 2 points each. Because the grading has to be finished rapidly, there will be no hand graded part.

1. A particle moves along the  $x$ -axis with velocity  $v(t) = 1/\sqrt{t}$ ,  $t > 0$ . Find the total distance traveled by the particle on the interval  $[1 \leq t \leq 4]$ .

- (A) 0    (B)  $1/2$     (C) 1    (D)  $3/2$     (E) 2  
(F)  $5/2$     (G) 3    (H)  $7/2$     (I) 4    (J)  $9/2$

2. For what positive value of  $k$  does the function  $y = \cos kt$  satisfy the differential equation

$$y'' + 16y = 0?$$

- (A) 1 (B) 2 (C) 3 (D) 4 (E) 5  
(F) 6 (G) 7 (H) 8 (I) 9 (J) 10