

KFUPM  
Mathematics & Statistics

Term 182  
MATH 102

Date: 3/3/2019  
Duration: 40 minutes

Quiz# 3

Name:

ID #:

Section:

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Q1. The volume of the solid obtained by rotating the region bounded by the graphs of  $y = \sqrt{x}$ ,  $y = 0$ ,  $x = 1$  and  $x = 5$  about the x-axis is equal to

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Q2. Using the method of cylindrical shells, the volume of the solid obtained by rotating the region bounded by the curves  $y = 1 - x^2$  and  $y = 0$  about the line  $x = -1$  is equal to (Write the integration only)

Q3.  $\int_1^e 2x \ln x \, dx$

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Q4. If the average value of  $f(x) = x^2$  over  $[0, b]$  is  $a$ , then  $b =$

Q5.  $\int 3 \sec x \tan^3 x \, dx$

$$\text{Q6. } \int_0^5 \sqrt{100 - x^2} dx$$