

Name: _____

GSI Name: _____

Section Time: _____

MATH 32 FALL 2012

MIDTERM 2 - PRACTICE EXAM

Total time: 50 minutes

No books, notes, calculators, or electronic devices allowed.

Please show your work and provide explanations where appropriate.

If you need more space, you may use the backs of the pages or extra paper, but make a note that you did so.

Problem	Score	Out of
1		12
2		9
3		12
4		9
5		12
6		6
Total:		60

(1) (3 points each) Evaluate the following expressions:

(a) $\log_{16}(32)$

(b) $8^{-\frac{5}{3}}$

(c) $e^{2\ln(3)+\ln(5)}$

(d) area $\left(\frac{1}{x}, 1, e^2\right)$

(2) (a) (3 points) Write an equation for a circle with center $(1, 3)$ and radius 4.

(b) (3 points) What is its circumference?

(c) (3 points) What is its area?

(3) Consider a trapezoid with vertices $(0, 0)$, $(6, 0)$, $(0, 2)$, and $(2, 2)$.

(a) (6 points) What is its perimeter?

(b) (6 points) What is its area?

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- (4) You deposit \$50 in a bank account which promises an annual interest rate of 5%.
- (a) (3 points) Write an expression for the amount of money in the account after t years have passed, assuming that the bank compounds interest monthly.

- (b) (3 points) Write an expression for the amount of money in the account after t years have passed, assuming that the bank compounds interest continuously.

- (c) (3 points) If interest is compounded continuously, how long will it take before you have \$200?

- (5) (12 points) Sketch a graph of the function $f(x) = \frac{3x - 6}{x + 2}$, labeling all horizontal and vertical asymptotes and x and y intercepts.

- (6) (6 points) Which number is greater, $\log_2(5)$ or $\log_3(8)$? Explain.