

Math 141

Midterm 2

Version 2

Name	
Section	

Allowed: 5 pages of cheat sheet, calculator

Total number of points:

Time: 50 minutes

Multiple Choice

- 1 Suppose that you invest \$2100 in an account that earns simple interest at an APR of 4.3%. Determine the accumulated balance after 3 years.
a) \$270.90 b) \$2370.90 c) \$2374.30 d) \$2382.72

- 2 Suppose that your savings account earns an APR of 8.9 % compounded continuously. Determine the annual percentage yield (APY), to the nearest hundredth of a percent.
a) 9.10 % b) 9.20 % c) 9.27 % d) 9.31 %

- 3 Calculate the yield on a \$1000 Treasury bond with a coupon rate of 6% that has a market value of \$860.
a) 6.42% b) 6.73% c) 6.98% d) 7.04%

- 4 Suppose you want your daughter's college fund to \$125,000 after 14 years. If you can get an APR of 7.8% compounded monthly, how much should you deposit at the end of each month?
a) \$398.54 b) \$406.64 c) \$412.50 d) \$476.83

- 5 Suppose you have a balance of \$1800 on your credit card, which charges an APR of 20%. If you want to pay off the balance in 18 months, how much should you pay each month? Assume that you charge no additional expenses to the card.
a) \$98.32 b) \$107.63 c) \$116.57 d) \$124.35

- 6 Suppose a married couple with no dependents filed jointly and had a taxable income of \$124,000 in 2000. How much income tax did they pay?

Use the tax table below:

Tax rate	single	Married filing jointly	Married filing separately	Head of household
15%	Up to 26,250	Up to 43,850	Up to 21,925	Up to 35,150
28%	26,251 to 63,550	43,851 to 105,950	21,926 to 52,975	35,151 to 90,800
31%	63,551 to 132,600	105,951 to 161,450	52,976 to 80,725	90,800 to 147,050
36%	132,601 to 288,350	161,451 to 288,350	80,726 to 144,175	147,051 to 288,350
39.6%	288,351 and above	288,351 and above	144,176 and above	288,351 and above

- a) \$29,188 b) \$29,747 c) \$34,888 d) \$38,626
- 7 There is a 95% chance that between 42% and 46% of all voters will vote for Congressman Bob in the next election. What do you know about the sample statistics and the margin of error in the survey?
- a) 42% of the voters stated that they would vote for Congressman Bob and the margin of error is 4%.
b) 44% of the voters stated that they would vote for Congressman Bob and the margin of error is 2%.
c) 46% of the voters stated that they would vote for Congressman Bob and the margin of error is 4%.
d) 44% of the voters stated that they would vote for Congressman Bob and the margin of error is 4%.
- 8 If the government cuts 2001 spending to 95% of the 2000 level of \$1802 billion, and receipts in 2001 are \$2100 billion, what will the net result be?
- a) There will be a \$388 billion net surplus for 2001
a) There will be a \$388 billion net deficit for 2001
c) neither
- 9 A recent magazine article determined that the Gemini is the most popular car on the road. A TV journalist decided to test the accuracy of the article with a survey. Which of the following survey questions will give the journalist the most accurate results?
- a) What car do you drive?
b) What do you think is the most popular car on the road?
c) Do you agree that the Gemini is the most popular car on the road?
d) What kind of car do you recall seeing most often on the highway?
- 10 *Does caffeine cause birth defects?* This question would best be answered by which of the following types of studies?
- a) Single-blind experiment
b) Case-control study
c) Double-blind experiment

11 Which of the following describes a statistical graph where a quantity is represented by a curve and has the same value everywhere along the curve?

- a) Stack plot b) Contour map c) Multiple bar graph d) Pictograph

12 Which of the following pairs of variables is likely to have a negative correlation?

- a) The price of jet fuel and the price of an airline ticket
b) A person's height and the same person's weight
c) The unemployment rate and the number of homeless people
d) Interest rates and the number of real estate transactions

13 The following time series diagram tracks the performance of two mutual funds (Fund 1 and Fund 2) in the month of August. If \$1000 was invested in Fund 1 and \$2000 was invested in Fund 2 on August 1st, what would the combined value of the investments be on August 31st?

- a) \$3000 b) \$4000 c) \$5000 d) \$6000

