

Math 141

Midterm 1

Version 2

Name		
section: circle one	1	2

Time: 50 minutes

Multiple Choice (each question is worth 3 points)

1. *Michael does not like toothpaste unless it has tartar control*
Assuming this statement is true, which of the following statements is false?
 - a) Michael does not like tartar.
 - b) Michael likes tartar control toothpaste.
 - c) Michael likes toothpaste without tartar control.
 - d) Michael does not like some toothpaste.

2. Which argument involves an appeal to ignorance?
 - a) Since Paul is not at work, he must be at the hardware store.
 - b) Four eye doctors in town all recommend Krystal Klear contact lenses.
Therefore, all eye doctors recommend Krystal Klear contact lenses.
 - c) We have never been able to communicate with beings from another planet,
therefore the Earth is the only planet with intelligent life.
 - d) Buy this stereo system - it's the most popular brand!

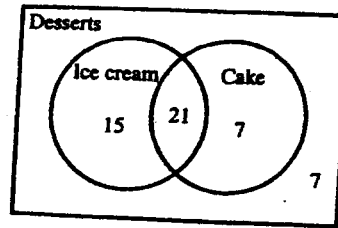
3. Which of the following sets are **not** disjoint?
 - a) Poets and playwrights
 - b) Men and women
 - c) Cars and dogs
 - d) Democrats and Republicans

4. You are searching for the book *Little Women* by Louisa May Alcott.
Which of the following word searches would **not** have your book on its search list?
 - a) (Little and Women) and Alcott
 - b) (Little or Women) and (Alcott or Bronte)
 - c) Women and (Alcott and Bronte)
 - d) (Little and Women) or (Alcott and Bronte)

5. Convert 21 C to degrees Fahrenheit.
 - a) -6.1 F
 - b) 61.8 F
 - c) 69.8 F
 - d) 95.4 F

6. Use this Venn diagram, which describes the desserts people order at a party, to answer the question:
How many people ordered cake?

- a) 43
- b) 7
- c) 21
- d) 28



7. The after-tax price of a guitar is \$340.03. If a 4% sales tax was charged, what was the pre-tax price of the guitar?
- a) \$318
 - b) \$326.43
 - c) \$326.95
 - d) \$353.63
8. Suppose you have 6 striped socks and 4 red socks in a drawer. How many socks must you take from the drawer to be certain of having at least a pair of red socks?
- a) 3
 - b) 5
 - c) 7
 - d) 8
9. The distance between two flag poles is given as 1710.0 meters. State the number of significant digits and the implied precision in this number
- a) 3 significant digits, nearest 0.1 meter
 - b) 5 significant digits, nearest 0.1 meter
 - c) 3 significant digits, nearest 10 meters
 - d) 5 significant digits, nearest 10 meters
10. Which of the following is an example of a systematic error?
- a) In a written survey, people sometimes make errors filling out the form
 - b) A man is measuring times with a stopwatch, but he occasionally stops the watch at the wrong instant.
 - c) A telephone survey will not accurately reflect the opinions of people who do not have telephones.
 - d) Because people may move or have multiple residences, the census may accidentally count some people twice (or not at all)
11. If one centimeter on a map represents 280 kilometers, what is the scale factor?
- a) $2.8 * 10^4$
 - b) $2.8 * 10^5$
 - c) $2.8 * 10^6$
 - d) $2.8 * 10^7$

For the next question refer to this table:

1998-1999 Median Income

State	Income	Index
Alabama	\$36,640	117.6
Arkansas	\$29,019	93.2
Louisiana	\$32,566	104.5
Mississippi	\$31,152	100.0

Source: US Census Bureau

12. Given that the 1998-1999 median income for Tennessee was \$35,690, find the income index for Tennessee. The reference value is Mississippi.

- a) 87.3
- b) 97.4
- c) 114.6
- d) 123.0

Written answers: (each question is worth 6 points)

13. Suppose your bank account was worth \$1000 at the beginning of last year. If your balance increased by 3% during the first half of the year and by 2% during the second half, what was your balance at the end of the year?

14. You need to put a carpet in a rectangular room that measures 13 feet by 22 feet at a cost of \$19.25 per square yard. Assuming that you can buy precisely the amount of carpet you need, how much will the carpet for the room cost?