

Math 141

Midterm 1

Version 1

Name		
section: circle one	1	2

Time: 50 minutes**Multiple Choice** (each question is worth 3 points)

1. 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!

2. *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.

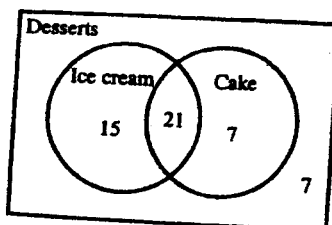
3. You are searching for the book *Little Women* by Louisa May Alcott.
Which of the following word searches would **not** have your book on its search list?
 - a) (Little and Women) and Alcott
 - b) (Little or Women) and (Alcott or Bronte)
 - c) Women and (Alcott and Bronte)
 - d) (Little and Women)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

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

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

The Venn diagram is titled "Desserts" and contains two overlapping circles. The left circle is labeled "Ice cream" and contains the number 15. The right circle is labeled "Cake" and contains the number 7. The overlapping region between the two circles contains the number 21. The number 7 is also written outside the right circle, below it. The total number of people who ordered either dessert is 43.

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



6. Convert 21 C to degrees Fahrenheit.
- a) -6.1 F
 - b) 61.8 F
 - c) 69.8 F
 - d) 95.4 F
7. 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
8. 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
9. 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) $2.8 * 10^7$
10. 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
11. 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)

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?