

Math 141

Midterm 1

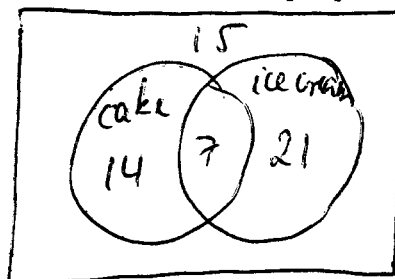
Version 1

Name	
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Time: 50 minutes

Multiple Choice (each question is worth 3 points)

- Which argument involves an appeal to ignorance?
 - Since Paul is not at work, he must be at the hardware store.
 - Four eye doctors in town all recommend Krystal Kleer contact lenses. Therefore, all eye doctors recommend Krystal Kleer contact lenses.
 - We have never been able to communicate with beings from another planet, therefore the Earth is the only planet with intelligent life.
 - Buy this stereo system - it's the most popular brand!
- Michael does not like toothpaste unless it has tartar control*
Assuming this statement is true, which of the following statements is false?
 - Michael does not like tartar.
 - Michael likes tartar control toothpaste.
 - Michael likes toothpaste without tartar control.
 - Michael does not like some toothpaste.
- Jane will not vote for a candidate who opposes a ban on handguns.
Assuming this statement is true, which of the following statements is false?
 - Jane supports a ban on hand guns.
 - Jane may vote for a candidate who does not own a handgun.
 - Jane might vote for Senator Jones who supports a ban on handguns.
 - If Senator Jones opposes a ban on hand guns, then Jane will vote for her.
- Which of the following sets are **not** disjoint?
 - Poets and playwrights
 - Birds and planes
 - Cars and dogs
 - Democrats and Republicans
- Use this Venn diagram, which describes the desserts people order at a party, to answer the question:



How many people ordered cake?

- a) 7
- b) 14
- c) 21
- d) 28

5. 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

1. Which of the following is an example of a systematic error?
- In a written survey, people sometimes make errors filling out the form
 - A man is measuring times with a stopwatch, but he occasionally stops the watch at the wrong instant.
 - A telephone survey will not accurately reflect the opinions of people who do not have telephones.
 - 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.
- 87.3
 - 97.4
 - 114.6
 - 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?