

MEYER SPRING 2005

Math 141

Version 2

Midterm

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Name

Time: 50 minutes

Multiple Choice (each question is worth 2 points)

- 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?

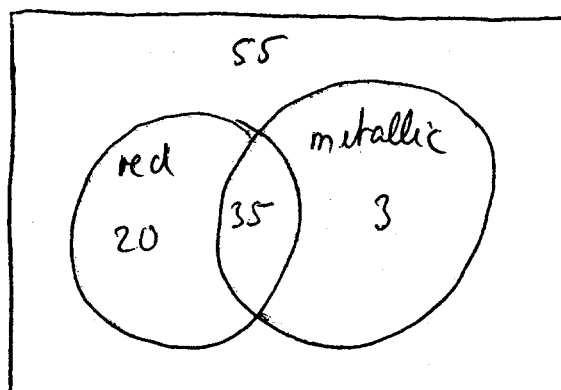
 - Jane supports a ban on hand guns.
 - Jane may vote for a candidate who does not own a handgun.
 - Jane might vote for Senator Jones who supports a ban on handguns.
 - If Senator Jones opposes a ban on hand guns, then Jane will vote for her.
- Which argument involves circular reasoning?

 - There is no evidence that this products causes heart attacks. Therefore it is perfectly safe.
 - Since the Bill of Rights guarantees freedom of speech, America's founding fathers would certainly have opposed any ban on pornography.
 - Since most people are in favor of the bill, it must certainly be a good law.
 - You'd better get there in time, since otherwise you'll be late.
- Which of the following sets are **not** disjoint?

 - Mothers and sons
 - Mothers and fathers
 - Fathers and daughters
 - Mothers and daughters
- If a Norwegian krone is worth \$7.06, what is the value of \$1 in krones?

 - 0.142 krones
 - 0.498 krones
 - 0.706 krones
 - 7.06 krones
- Use this Venn diagram, which describes the cars on a used car lot, to answer the question:
How many cars on the lot are not red?

 - 35
 - 58
 - 55
 - 38



6. Two cities are 379 km apart. Convert this distance to miles to the nearest tenth.(1 mile = 1.6093 km)
- 346.6 miles
 - 235.5 miles
 - 609.9 miles
 - 146.3 miles
7. If 50% of the students in your class are men and 20% of the students have blond hair, which of the following describes the percentage of students in your class who are men with blond hair?
- $50\% + 20\% = 70\%$
 - $50\% * 20\% = 10\%$
 - $50\% - 20\% = 30\%$
 - The percentage cannot be determined from the given information.
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 striped socks?
- 3
 - 5
 - 6
 - 7
9. The after tax price of a bicycle is \$237.42. If a 7% sales tax was charged, what was the pre-tax price of the bicycle?
- \$220.80
 - \$221.89
 - \$226.95
 - \$254.04
10. The actual height of a building is 221 feet. A student reports the height to be 199 feet. Find the relative error of the student's measurement.
- 22%
 - 1000%
 - 11.1%
 - 10.0%
11. How many years would it take a worker making \$16.00 per hour to earn \$8,000,000, assuming she works 260 8-hour days per year?
- 57 years
 - 240 years
 - 80 years
 - 2740 years
12. Which of the following is an example of a random error?
- In a written survey, people sometimes make errors filling out the form

- b) A telephone survey will not accurately reflect the opinions of people who do not have telephones.
- c) Measurements are taken using an inaccurate scale that always reports a smaller weight than the correct weight.
- d) At a clinic, people are wearing shoes when their heights are measured.
13. The Consumer Price Index was 130.7 in 1990 and 172.8 in 2000. If a person earned 20,500 in 1990, how much did he need to earn in 2000 to maintain the same standard of living?
- a) \$15,505
- b) \$18,906
- c) \$27,103
- d) \$33,053

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

14. Identify the reference value.
- a) \$36,640
- b) \$29,019
- c) \$32,566
- d) \$31,152

Written answers: (6 points each)

15. The statement is: *If today is Monday, then Mario is home.* Find the:
- 1) inverse
- 2) converse
- 3) contrapositive
16. Suppose water flows from a shower at a rate of 0.44 cubic feet per minute. Do you use more water by taking an 8-minute shower or by filling a bathtub with 0.45 cubic yards of water, and by how much?
(1 yard = 3 feet)