| East Los Angeles College |
| **Department of Mathematics** |
| **Math 230** |
| **Test 4 Study Guide** |

Place all answers on the included answer sheet.

Use Euler diagrams to determine whether the arguments are valid.

1. All Kangaroos are cute
   Jimmy is a Kangaroo
   Therefore, Jimmy is cute

2. All Kangaroos are cute
   Kimmy is cute
   Therefore, Jimmy is a Kangaroo

3. No kids are funny
   Jimmy is not a kid
   Therefore, Jimmy is funny

4. Some kids are funny
   Jimmy is a kid
   Therefore, Jimmy is funny

5. No scarecrows are scary
   All tin men are scarecrows
   Therefore, No tin men are scary

6. Some guitars are made of wood
   All things that are made of wood are beautiful
   Therefore, Some guitars are beautiful

7. Some dogs wear glasses
   Mr. Snodgrass wears glasses
   Therefore, Mr. Snodgrass is a dog

You pick a card from a standard deck, assume the ace is high. What's the probability of selecting a:

8. Queen?

9. Heart?

10. Queen of Hearts?

11. Red Queen?

12. Card at least an 8?

13. Red card at least an 8?

14. Card no more than 4?

15. Red card no more than 4?

Stocking Taco Sauce- The following table illustrates a shopping cart with various brands of Taco Sauce and strengths.

Brand	Mild	Medium	Hot	Total
Taco Bell	5	8	4	17
Ortega	2	5	3	10
Old El Paso	3	6	2	11
Other	1	2	1	4
Total	11	21	10	42

If a worker selects a jar at random, what's the probability the worker selects:

16. Ortega?   17. Non-Ortega?

18. Mild Sauce?   19. Non-Mild Sauce?

20. Hot Sauce?   21. Taco Bell Hot Sauce?

A bag contains the following marbles.

12 Red
8 Orange
4 Yellow
2 Green

If you select a marble at random, what's the odds for selecting:

22. Red   23. Yellow

If you select a marble at random, what's the odds against selecting:

24. Red?   25. Orange?

26. **New Business**- In a proposed business venture, Stephanie estimates there is a 60% Chance she will make $ 50,000 and a 40% chance she will lose $ 25,000. Determine Stephanie's Expected Value.

27. **Pick a Card**- Mike and Dave play the following game. Mike picks a card from a standard deck. If Mike selects an Ace, he wins $ 20.00. If Mike does not select an Ace, he loses $ 1.00. Determine Mikes expected value.

Multiple Choice Test- A multiple choice test has 4 possible answers. For each correct answer, you are rewarded 5 points. For each incorrect answer, 2 points are subtracted from your score. For answers left unanswered, you earn no points.

28. If you guess on a question, what's the expected value for guessing correct?

29. If you eliminate an answer, what's the expected value for guessing correct?

30. If you eliminate two answers, what's the expected value of guessing correct?

Answer Sheet

1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	