**Lab for Sections 12.3 and 12.5** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Use good notation and show appropriate work. Since there is limited space, you do* ***not*** *need to write solutions to application problems in complete sentences*.

1. A person paid $46 including the tip for a 2. 7.9% of what number is 14.22?

meal. If the person tipped 15%, what was  
 the cost of the meal before the tip?

3. One ball is drawn from a bag that contains a red ball, a green ball, and a blue ball. A four-sided die with sides numbered 1, 2, 3, and 4 is rolled. And a coin is flipped.

(a) Draw a tree diagram that represents this activity.

(b) What is the probability of obtaining (c) What is the probability of not obtaining  
a blue ball and the number 4? a blue ball and the number 4?

(d) What are the odds in favor of obtaining (e) What are the odds against obtaining

a blue ball and the number 4? a blue ball and the number 4?

(e) What are the odds in favor obtaining (f) What are the odds against obtaining  
a red ball, the number 3, and heads? a red or blue ball and the number 1 or 2?

4. A couple that is planning a wedding have two young nephews (Arond and Tyron) and three young nieces (Pam, Sonda, and Kyrie) to choose from to be a ring bearer and flower girl.

(a) Draw a tree diagram to illustrate their options. (b) If they are randomly chosen, what are the odds in   
 favor of Arond and either Pam or Sonda being  
 chosen?

5. A deck contains 36 cards. Each card has either a diamond (*D*) or triangle, each figure is red (*R*) or green, and each card has a pig (*P*) or cow on it.. The descriptions of the cards are given in the table below.

*U*

*D*

*R*

*P*

Use the information to draw the Venn diagram describing this situation.

Four cards have red diamonds and a pig*.*

Seven cards have red diamonds.

Fourteen cards have red figures and a pig*.*

Five cards have a green triangle and a pig*.*

Nineteen cards have a red figure.

Sixteen cards have a diamond.

Seven cards have green diamonds and a cow.

1. What is the probability that a card drawn has a triangle?

(b) What is the probability that a card (c) What is the probability that a card drawn  
drawn has a diamond or a pig? has a triangle and a cow?

(d) What are the odds in favor of drawing (e) What are the odds against drawing a card that  
a card that has a pig, but not a diamond? has a pig or a red diamond?

(f) What are the odds in favor of drawing (g) What are the odds against drawing a card that  
a card that has cow? has a red figure and a pig?

6. Noah selects one card from a standard 52 card deck. Find the following odds.

(a) What are the odds against the card (b) What are the odds in favor of the card  
being a Jack? being a face card?

(c) What are the odds against the card (d) What are the odds in favor of the number   
being a heart or a club? on the card being between 3 and 5?