Geometry (HSS-CP.A.1) Name: ________________________

Unit Six: Probability – Review (HW7) Date: ___________ Period: _______

1. Why does the relationship P(A) + P(B) = P(A or B) work only for mutually exclusive events?

2. Timothy is asked to determine the P(iPod or iPhone). He adds the column P(iPad) = 30/72 to the row P(iPhone) = 55/72 and gets 85/72. Because this number exceeds 1 he knows that he has done something wrong. What did he do wrong? What should the correct answer be?

	iPad	Not iPad	Total
iPhone	25	30	55
Not iPhone	5	12	17
Total	30	42	72

3. Draw and completely label a Venn Diagram for each scenario. Determine the probability requested.

a) P(A) = 0.45 P(B) = 0.56

P(A and B) = 0.2

P(A **or** B) = ________

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b) P(A **or** B) = 0.8

P(A) = 0.6 P(B) = 0.5

P(A **and** B) = ________

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4. Given that events A and B are independent, determine the probabilities. Draw and label a Venn diagram.

P(A) = 0.3 P(B) = 0.7

P(A **and** B) = ________

P(A **or** B) = ________

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5. Use the two way frequency table to determine the probabilities.

a) P(Red or Green) = ______ b) P(Yellow) = ______

c) P(Male or Green) = ______ d) P(Male) = ______

e) P(Black) = ______

	Red	Green	Blue	Yellow	Total
Male	15	9	11	2	37
Female	8	12	6	7	33
Total	23	21	17	9	70

6. A 12 sided dice is rolled. Complete the sample spaces using set notation. Shade the required region in each Venn diagram and determine the requested probability.

Set A = Factors of 6 = __________________

P(A) = ___________

Set B = #'s greater than 9 = ____________________

P(B) = ___________

Set C = Odd Numbers = ________________

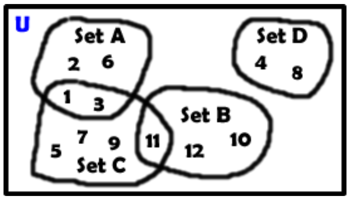
P(C) = ___________

Set D = {4, 8}

P(D) = ___________

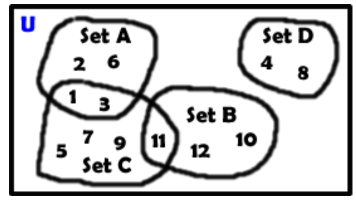
a) Shade P(A or B)

P(A **or** B) = _________



b) Shade P(C and D)

P(C **and** D) = _________



7. Given a jar of cookies with 5 chocolate chip, 3 oatmeal, and 2 peanut butter cookies in it, determine the following probabilities.

a) Getting an oatmeal cookie and then a chocolate chip cookie **without** replacement.

P(O and CC) = _____________

b) Getting two chocolate chip cookies **without** replacement.

P(CC and CC) = _____________

c) Getting a peanut butter cookie or an oatmeal cookie.

P(PB or O) = ___________

8. Given two bags of marbles, bag #1 with 2 green, 3 red and 7 orange, and bag #2 with 5 green, 1 red and 4 orange. Determine the following probabilities.

a) Getting an orange from bag #1 and then getting a green from bag #2.

P(O1 and G2) = ___________

b) Getting a red from bag #1 and then getting a red from bag #1 **without** replacement.

P(R1 and R1) = ___________

c) Getting a green from bag #1 and then getting a green from bag #2.

P(G1 and G2) = ___________

9. Using the marble bags in question #8, what would P(Green and Green) be if the person picked from bag #1 and then placed that marble into bag #2 and then picked from bag #2?

10. Given a standard deck of cards. Determine the probabilities.

a) Getting a red card and then a red card **without** replacement.

P(Red and Red) = _______

b) Getting a face card and then a 5 **without** replacement.

P(Face and 5) = _______

c) Getting a 2 and then a 2 **without** replacement.

P(2 and 2) = _______

d) Getting two black face cards **without** replacement.

P(B Face and B Face) = _______

e) Getting a red card or a black king.

P(red or black king) = _______

f) Getting a face card or a diamond.

P(face card or diamond) = _______

11. Complete the tree diagram by writing in the probabilities for each branch and then calculating the probabilities for each possible outcome.

Bag #1 has 2 white and 3 red marbles and bag #2 has 4 purple, 2 green and 1 orange. Pick from bag #1 keep it and then pick from bag #2.