Two-way Table, Intersection and Union Worksheet

Name: Date: Period:

3-6. ROLL AND WIN

You begin the game *Roll and Win* by picking a number. Then you roll two regular dice, each numbered 1 through 6, and *add* the numbers that come up together. If the sum is the number you chose, you win a point. For example, if you choose "11", and a 6 and a 5 are rolled, you win! *3-6 HW eTool* (CPM) Homework Help ✎

a. What is the sample space, which can be thought of as the set of all the possible outcomes, when two dice are rolled and their numbers added?

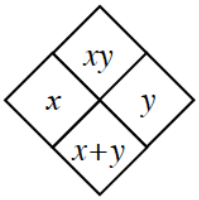
b. One way to analyze this situation is to make a table of all the possible outcomes like the one below. Copy and complete this table of sums on your paper. Are each of the outcomes in this table equally likely?

Dice #2 \ Dice #1	1	2	3	4	5	6
1				**5**		
2		**4**				
3						
4			**7**			
5						
6						

c. What is P(even)? P(10)? P(15)?

d. Which sum is the most likely result? What is the probability of rolling that sum?

3-8. Copy and complete each of the Diamond Problems below. The pattern used in the Diamond Problems is shown at right. Homework Help ✎

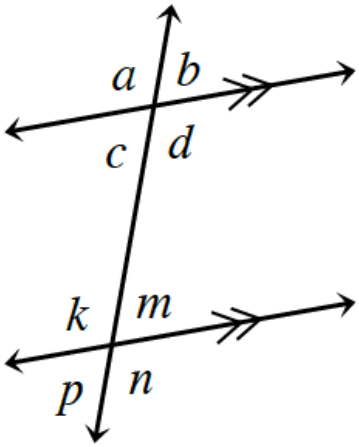


9 | –9	–36 | 0	–20 | 4	$\frac{4}{5}$ | $\frac{1}{2}$

3-7. Determine the missing angle measure(s) in each problem at right using the geometric relationships shown in the diagram at right. Be sure to write down the conjecture that justifies each calculation. Each part is a separate problem. Homework Help ✎

a. If $d = 110°$ and $k = 5x - 20°$, write an equation and solve for x.

b. If $b = 4x - 11°$ and $n = x + 26°$, write an equation and solve for x. Then determine the measure of n.



3-41. Avery has been learning to play some new card games and is curious about the probabilities of being dealt different cards from a standard 52-card deck. Help him figure out the probabilities listed below. *3-41 HW eTool* (CPM). Homework Help ✎

a. What are *P*(king), *P*(queen), and *P*(club)?

b. What is *P*(king or club)? How does your answer relate to the probabilities you calculated in part (a)?

c. What is *P*(king or queen)? Again, how does your answer relate to the probabilities you calculated in part (a)?

d. What is the probability of not getting a face card? Jacks, queens, and kings are face cards.

3-44. Use an area model to multiply each of the following expressions. Write each expression both as a sum and as a product. Homework Help ✎

a. $(2x+5)(x+6)$ =	b. $(m-3)(3m+5)$ =
c. $(12x+1)(x^2+5)$ =	d. $(3-5y)(2+y)$ =