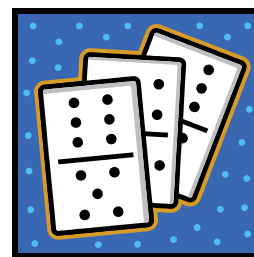


Name: _____ Date: _____

More Garage Sale Dominoes

Mrs. Simpson was so thrilled with her garage sale double-six domino sets that she decided to hunt for cheap double-nine sets. She wants to make sure that she only buys complete sets of the double-nine dominoes when she finds them, so she decides to figure out how many there should be.



Mrs. Simpson knows that there are 28 dominoes in a double-six set. Since nine is $6 + \frac{1}{2}$ of 6 or 3, she estimates that there should be $28 + \frac{1}{2}$ of 28 dominoes altogether in a double-nine set. Mrs. Simpson figures that there should be $28 + 14$ or 42 dominoes in a complete double-nine set.

- How many dominoes should there be in a complete set of double-six dominoes?
- Is Mrs. Simpson correct in her thinking? Does her quick estimation method work?
- Use words, pictures and/or numbers to explain how you know your answers are correct.

Name: Possible Solution Date: _____

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Plan: Make an orderly list of all different dominoes in a double-nine set.

0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9
	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9
		2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9
			3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9
				4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9
					5 + 5	5 + 6	5 + 7	5 + 8	5 + 9
						6 + 6	6 + 7	6 + 8	6 + 9
							7 + 7	7 + 8	7 + 9
								8 + 8	8 + 9
									9 + 9

Answer: There are actually 55 different dominoes in a double-nine set, as listed above. Mrs. Simpson's quick estimation method does not work as there are more than 42 different possible dominoes.