

Perhaps no GMAT item is as emblematic of the test as is a Data Sufficiency question. It's an iconic question format, unique to the GMAT and true to the aims of this specific test: to reward those who show the higher-order reasoning skills that will lead to success in business.

True to their name, Data Sufficiency questions ask you to determine when you will have enough information (when is the data sufficient) to make a conclusive decision. In doing so, these questions can assess your ability to plan ahead for a task; to elicit an effective return-on-investment (remember, you can't use both statements if one of them is, alone, sufficient), to find flaws with conventional wisdom, and to think flexibly.

Data Sufficiency questions also strike fear and loathing in the hearts of many GMAT examinees, but hold a special place in the hearts of a select few who love the nuance that these questions permit. How can you turn yourself from the fear-and-loathing group to the group that wishes the local newspaper would add Data Sufficiency to its crossword/sudoku page? Here are three essential Data Sufficiency strategies:

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1) Prove Insufficiency

The corporate world is full of "yes men" and "groupthink" – of the kind of inertia that leads companies to think in the same direction without considering alternate points of view. To combat that, employers and business schools seek those who can see the entire array of possibility, and the GMAT tests for that in many Data Sufficiency problems. Consider a problem like:

Is the product $jkmn = 1$?

(1) $jk/mn = 1$

(2) $j, k, m,$ and n are integers

Considering statement 1 it's quite easy to get the answer "NO". Using 1, 8, 2, and 4, for example, satisfies statement 1's constraints but clearly gives a product unequal to 1. So does 1, 20, 5, and 4. But having just one "NO" should immediately change your focus toward getting the other answer. A series of nos using similar numbers (1, the product of two integers, and those two integers is the formula we used to create both options thus far) doesn't do you any good. You need to either prove that the statement is sufficient in all cases or find the case or two that doesn't give the same answer, rendering the statement insufficient. And in either case you need to try different types of numbers. With that as your guide, you might be persuaded to try nonintegers as at least a few values: $1/2, 2, 1/4, 4$ satisfies statement 1, but also provides the product 1 and the answer "YES". We can prove the statement insufficient using these not-as-obvious nonintegers, and that's why having a goal of insufficiency is so helpful: it forces you to try unique numbers.

Statement 2, however, renders our noninteger choices obsolete. We can use the same integers as before (1, 8, 4, 2) to get "YES", but now we need to try harder to get "NO" as the fractions don't work. Here, again, the key to unlocking this one may be in our goal: we want the statement to be insufficient! So we should push the limits of possibility. Does the statement say that we can't repeat numbers? No! So we can say that $j, k, m,$ and n are 1, 1, 1, and 1, rendering both statement 2 and both statements together insufficient. A major component of Data Sufficiency is that it rewards you for playing devil's advocate – for noting the few unique cases in which a likely conclusion is invalid. By making that your goal, you can ensure that you're working toward those unique case numbers (like negatives, fractions, primes, 0) that tend to produce different results.

2) Beware the Obvious Answer

Data Sufficiency questions are supposed to be hard; more so than any other question type they tend to represent a chess match between you and the author, as the author has two chances to get you to make a mistake. She won't likely

waste either statement giving you an easy pass – the questions have to elicit something from you in terms of efficiency or ingenuity in order to answer them correctly, so if an answer choice seems obvious within 15-20 seconds and you can't spot a trap, well, you just fell into the trap. Consider the question:

What is the value of x ?

1) $3x + 2y = 15$

2) $y = (-3/2)(x - 5)$

This should pretty obviously be C. Two equations, two variables, neither works alone but both work together, right? But that's too easy, and the GMAT won't often give you the answer that quickly. Much as though the author had moved a pawn to expose her rook in a chess match to bait you into giving up your queen, you should take this situation to make sure that the author isn't luring you into an easy trap. With that as your motivation to rearrange the algebra, you'll notice that statement 2 is exactly the same relationship as statement 1:

$$y = (-3/2)(x-5)$$

$$2y = -3(x - 5)$$

$$2y = -3x + 15$$

$$2y + 3x = 15$$

While you may not see this right off the bat, the relative ease with which choice C comes to you should be your guide – don't accept an easy answer without digging into the statements a little further to further investigate.

3) Don't Contradict Yourself

There's a hard-and-fast rule regarding Data Sufficiency that people don't know and use as much as they should: the statements can never contradict each other. Knowing this, if your answers for statement 1 and statement 2 are different, you must go back and reconsider your math; as Boston GMAT tutor David says, that's an "answer choice F", meaning that you just effed up the math somehow.

Consider the question:

Is $x < 0$?

1) $x^2 = 9x$

2) The absolute value of $x = -x$

Did you get $x = 9$ for statement 1, meaning a definitive NO? And x is negative for statement 2 for a definitive YES? Most do. But how can x be both "negative" and "9" at the same time? Clearly, as these statements contradict each other, we messed up the math somehow. What did we forget? In both cases, x could be 0. In statement 1 that still gives us "NO" but in statement 2 that gives us an insufficient. So the answer is A, not D as many might think. And it was recognizing this inconsistency with both statements – remember, statements are facts...they must be true! – allowed us to catch that potential mistake.