GMAT Prep

Data Insights 1

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Data Sufficiency

This data sufficiency problem consists of a question and two statements, labeled (1) and (2), in which certain data are given. You have to decide whether the data given in the statements are sufficient for answering the question. Using the data given in the statements, plus your knowledge of mathematics and everyday facts (such as the number of days in July or the meaning of the word counterclockwise), you must indicate whether:

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
C. BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question asked.
D. EACH statement ALONE is sufficient to answer the question asked.
E. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Data Sufficiency

1. John and Rica each received a salary increase. Which one received the greater dollar increase?

   (1) John's salary increased 8 percent.
   (2) Rica's salary increased 5 percent.

   A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
   C. BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question asked.
   D. EACH statement ALONE is sufficient to answer the question asked.
   E. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Data Sufficiency

2. If r and s are positive integers, r is what percent of s?

   (1) $r = \frac{3}{4}s$

   (2) $r + s = \frac{75}{100}$

   A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
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   E. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

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3. What is the ratio of $x : y : z$?

   (1) $z = 1$ and $xy = 32$

   (2) $\frac{x}{y} = 2$ and $\frac{z}{y} = \frac{1}{4}$

   A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
   C. BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question asked.
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Data Sufficiency

4. Does Joe weigh more than Tim?

   (1) Tim's weight is 80 percent of Joe's weight.
   (2) Joe's weight is 125 percent of Tim's weight.

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   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
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5. If x and y are positive, what is the value of x?

   (1) 200 percent of x equals 400 percent of y.
   (2) xy is the square of a positive integer.

   A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
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6. If y is greater than 110% of x, is y greater than 75?

   (1) $x > 75$
   (2) $y - x = 10$

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   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
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7. Are at least 10% of the people in Country X who are 65 years old or older employed?

   (1) In Country X, 11.3% of the population is 65 years old or older.
   (2) In Country X, for the population 65 years old or older, 20% of the men and 10% of the women are employed.

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   B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
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8. If S is a set of four numbers w, x, y, and z, is the range of the numbers in S greater than 2?

   (1) $w - z > 2$
   (2) z is the least number in S.

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9. What is the average (arithmetic mean) of a, b, and c?

   (1) $a + 2b + 3c = 10$
   (2) $3a + 2b + c = 14$

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10.If x is an integer, is y an integer?

(1) The average of x, y, and $y - 2$ is x.
(2) The average of x and y is not an integer.

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11. The cost of each bottle of water is the same and the cost of each bottle of cola is the same. What is the cost ratio of 1 bottle of water and 1 bottle of cola?

(1) 2 bottles of water and 5 bottles of cola cost $50.
(2) 6 bottles of water and 15 bottles of cola cost $150.

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12. Henry purchased 3 items during a sale. He received a 20 percent discount off the regular price of the most expensive item and a 10 percent discount off the regular price of each of the other 2 items. Was the total amount of the 3 discounts greater than 15 percent of the sum of the regular prices of the 3 items?

(1) The regular price of the most expensive item was $50, and the regular price of the next most expensive item was $20.
(2) The regular price of the least expensive item was $15.

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13. X is a set containing 7 different numbers. Y is a set containing 6 different positive numbers, all of which are members of set X. Is the mean of X equal to the mean of Y?

(1) The range of X is greater than the range of Y.
(2) Sum of all the numbers in set X < Sum of all the numbers in set Y.

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14. Material A costs \$10 per kilogram, and Material B costs \$20 per kilogram. If 25 kilograms of Material X consists of p kilograms of Material A and q kilograms of Material B, is $p < q$?

(1) $p < 13$
(2) The cost per kilogram of Material X is more than \$15.

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15.Is the standard deviation of a certain set greater than 5000?

(1) The range of the set is greater than 7000.
(2) The range of the set is less than 7000.

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16. The original cost of a mobile was \$399. Mr. Bruce sold the mobile by increasing the price by x% and then giving a discount of y% on the increased price. Was the selling price less than the original cost?

(1) $x = y$
(2) $100x - 100y < xy$

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17. What is the number of female employees in Company C?

(1) If Company C were to hire 14 more people and all of these people were females, the ratio of the number of male employees to the number of female employees would then be 16 to 9.
(2) Company C has 105 more male employees than female employees.

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Table Analysis

Examine the table and accompanying text to determine the type of information provided.

- Read the question carefully to determine the data analysis required and know the choices you have to make by reviewing the answers.
- Judge each answer statement carefully based on the condition specified (i.e. yes or no, true or false). Focus your attention on whether the given condition has been met.

Table Analysis

1. Judge each answer statement carefully based on the condition specified (i.e. yes or no, true or false). Focus your attention on whether the given condition has been met. The table below displays data from the different divisions of Company X in 2011. Market shares are computed by dividing Company X's total sales (in dollars) for that division by the total sales (in dollars) made by all companies selling products in that category. Market shares are separately calculated for the world (global market share) and for the United States (U.S. market share). Ranks are calculated relative to all companies competing in a particular market.

	Global Market Share	Global Market Rank	Total U.S. Market Share	U.S. Market Rank
Agriculture & Food	8%	6	12%	4
Healthcare & Medical	12%	4	18%	2
Household Goods & Personal Care	5%	5	10%	4
Performance Plastics	30%	1	26%	1
Water & Process Solutions	19%	1	32%	1

Select Yes if the statement can be proven true by the evidence provided. Otherwise, select No.

Yes	No	
○	○	There is at least one other country in which Company X has a greater percentage of the performance plastics market, as a percentage of 2011 sales, than it has of the performance plastics market in the U.S

Table Analysis

2.

National Park		Visitors			Area	
Name	State	Number	% change	Rank	Acres	Rank
Grand Canyon	AZ	4,388,386	0.9	2	1,217,403	11
Yosemite	CA	3,901,408	4.4	3	791,266	16
Yellowstone	WY	3,640,185	10.5	4	2,219,791	8
Rocky Mtn.	CO	2,955,821	4.7	5	265,828	26
Zion	UT	2,665,972	-2.5	8	145,598	35
Acadia	ME	2,504,208	12.4	9	47,390	47
Bryce	UT	1,285,492	5.7	15	35,835	50
Arches	UT	1,014,405	1.8	19	76,519	42
Badlands	SD	977,778	4.7	22	242,756	28
Mesa Verde	CO	559,712	1.7	30	52,122	46
Canyonlands	UT	435,908	-0.1	36	337,598	23

Table Analysis

The table above gives information for 2010 on total visitors and total acreage for 11 US National Parks. In addition to the numbers of total visitors and total acreage for each National Park, the table also provides the percent increase or decrease over the total visitors for 2009 and the rank of the National Park for total visitors and total acreage in 2010.

Consider each of the following statements about these National Parks. For each statement indicate whether the statement is true or false, based on the information provided in the table.

True	False	
○	○	The park that experienced the greatest percent increase in visitors from 2009 to 2010 also had the least total acreage.
○	○	The park with the median rank by the number of visitors is larger than only one other park by acreage.
○	○	The total number of visitors at Arches in 2009 was fewer than 1,000,000.

Table Analysis

3. The table displays the academic class spread among Dawn County schools in 2005.

Academic Class List			
Academic Class List	Schools Offering Class	% of Schools Offering	# Students Enrolled
AP English	4	50	467
English	6	75	700
Math	8	100	934
AP Calculus	4	50	467
Gym	5	63	588
Painting	2	25	233
Sculpting	1	13	121
Study Hall	5	63	588
French	4	50	467
Latin	3	38	355
German	4	50	467
Spanish	4	50	467

Table Analysis

Select Yes if the statement can be proven true by the evidence provided. Otherwise, select No.

Yes	No	
○	○	No class is offered in less than one-third of the schools.
○	○	Every school in the district offers either Gym or at least one Art class (Painting or Sculpting).
○	○	Math is an academic class that is offered in all schools in Dawn County.

Table Analysis

4.

Rank	Train stations		Passengers	
	City	Code	Number	% Change
8	Sacramento	SAC	1231	3.1
2	Reno	RNO	948	-0.7
12	Salt Lake City	SLT	1134	2.3
6	Glenwood Springs	GLN	1014	1.8
3	Denver	DEN	724	-1.2

Table Analysis

The table above give information for 2013 on the total passengers for 5 train stations in the western United States.

These stations were chosen because in 2013 they were among the most popular. The table also includes the percent increase and decrease from the previous year. Consider the following statements and determine whether the statements are true or false based on the information provided by the table.

True	False	
○	○	The percent of change in the passenger count from 2012 created the rank identifier for 2013.
○	○	The train station that has the median number of passengers also has the median rank.
○	○	Over 50 percent of the stations that experienced a percentage increase are in the state of Utah.

Table Analysis

5. The table presents quarterly sales and inventory data, in metric tons (MT), for Apex Corporation for a few steel products.

S - Sales (MT): I - Inventory (MT)

Products	Quarter I		Quarter II		Quarter III		Quarter IV		Yearly Total	
	S	I	S	I	S	I	S	I	S	I
CR pipe	24	12	15	8	4	8	13	4	56	32
CR sheet	16	8	12	12	16	4	15	21	59	45
CR tube	15	15	16	8	6	15	8	4	45	42
CR wire	15	0	24	8	18	13	13	12	70	33
HR pipe	24	12	21	8	5	21	12	15	62	56
HR sheet	18	15	15	16	0	0	14	3	47	34
HR tube	8	9	8	21	8	0	9	2	33	32
HR wire	24	26	12	16	15	15	8	4	59	61
HS Billet	21	24	21	0	18	5	15	12	75	41
MS Billet	10	8	15	0	18	2	15	16	58	26
Total	175	129	159	97	108	83	122	93	564	402

Table Analysis

Select Yes if the statement can be proven true from the information provided in the table. Otherwise, select No.

Yes	No	
○	○	In quarter II, among all products, CR tube sale is least deviated from the arithmetic mean sale for that quarter.
○	○	In quarter IV, among all the products, highest sales-to-inventory ratio was observed for HR tubes.
○	○	Median sale for quarter I is more than that for each of the other three quarters.

Table Analysis

6. The table lists the percentage of a city's population that visited a video game store, a movie theatre, a nightclub, and a department store in a 3-month period.

City	Video Game Store	Movie Theatre	Nightclub	Department Store
New York	12%	22%	19%	96%
Los Angeles	25%	34%	14%	92%
San Francisco	14%	18%	5%	95%
Boston	9%	11%	8%	94%
Chicago	8%	12%	6%	92%
Houston	13%	14%	4%	93%
Miami	5%	7%	8%	88%

Table Analysis

For each of the following statements, select **Would help explain** if it would, if true, help explain some of the information in the table. Otherwise select **Would not help explain**.

Would Help Explain	Would Not Help Explain	
○	○	The proportion of the city inhabitants in Los Angeles that live within close proximity to a video game store is larger than that of Miami.
○	○	The two cities that spend the most money to promote their department stores are also those in which the night club scene is the biggest.
○	○	The proportion of the city inhabitants in Los Angeles involved in the Movie industry is greater than that of any other city listed.

Table Analysis

7. During the Summer Fitness Challenge, 27 individuals entered the contest to lose weight. Each contestant was categorized by weight group into 3 groups. Each fitness trainer, 9 in total, was assigned to one contestant from each weight group. The number of kilograms lost by the end of the 8-week session is recorded in the table below.

   The final score for the contest was computed as a weighted mean of the kilograms lost for client 1, client 2, and client 3, using the same weights for each fitness trainer.

Years of Experience	Fitness Trainer	Client 1 (100-125 kg)	Client 2 (125-150 kg)	Client 3 (150-250 kg)	Final Score
1	Susan	10	20	35	20.5
3	Megan	14	22	45	25.7
4	Tom	25	35	70	41.5
4	Brad	20	25	66	35.3
2	Peter	22	28	49	31.9
1	Melissa	25	33	62	38.5
3	Nick	16	18	52	27.4
2	Russel	14	15	39	21.8
2	Patty	8	12	22	13.4

Table Analysis

For each of the following statements, select Yes if the statement is true based on the information provided; otherwise, select No.

Yes	No	
○	○	In calculating the final score for the contest, the weight loss for a fitness trainer's third client (Client 3) had equal weighting as the weight loss on Client 2.
○	○	The median final score for all fitness trainers was 27.40
○	○	In the data set for "Client 1" clients who worked with a fitness trainer having four years of experience, the range was 8.

Table Analysis

8.

Household Size: Occupied Housing Units by State, 2010 Census

	1-person households	2-person households	3-person households	4-person households	5-person households	6-person households	7-or-more-person households
Connecticut	373,648	443,095	226,658	197,116	84,916	29,348	16,306
Maine	159,533	213,695	84,340	64,010	23,840	7,854	3,947
Massachusetts	732,263	813,166	417,216	353,676	150,842	51,409	28,503
New Hampshire	133,057	188,923	85,046	70,835	27,365	9,286	4,461
Vermont	72,233	96,889	39,695	31,210	11,107	3,480	1,828

The above data are drawn from 2010 census data for New England (excluding Rhode Island, whose data is not available). The table provides the total number of households in each state and the distribution of households of various sizes within each state. Consider the following statements about these states. For each statement, evaluate whether that statement is True or False, according to the information in the table.

True	False	
○	○	New Hampshire has the largest percent difference between the number of two-person households and the number of three-person households.
○	○	In each of the seven categories of household size, Massachusetts has more households than the next highest two states combined.

Thank you