Generated Questions - 20250403_141855

Question 1: What is the value of x if x is a decimal number?

Statement 1: x is greater than 0.5.

Statement 2: x is less than 1.2.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: Statement (1) indicates that x is greater than 0.5, and Statement (2) indicates that x is less than 1.2. Together, they define a range (0.5 < x < 1.2), which is sufficient to conclude that x has a specific value within this interval.

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 2: If y is a decimal, what is its value?

Statement 1: y + 0.3 = 0.8.

Statement 2: y - 0.2 = 0.1.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: D

Explanation: Both statements provide equations that can be solved for y. From Statement (1), y = 0.5, and from Statement (2), y = 0.3. As a result, each statement alone is sufficient to determine the value of y.

Difficulty: Easy

Difficulty Rating: 2.5

Estimated Time: 90

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 3: Is the decimal number z greater than 1.5?

Statement 1: z is the result of multiplying 0.3 by 5.1.

Statement 2: z is the sum of 1.2 and 0.4.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

*Explanation: From Statement (1), z = 0.3 * 5.1 = 1.53, which is greater than 1.5. From Statement (2), z = 1.2 + 0.4 = 1.6, also greater than 1.5. However, neither statement alone is sufficient to determine whether z is greater than 1.5 without the other, so both together confirm the conclusion.*

Difficulty: Hard

Difficulty Rating: 4.0

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 4: What is the value of x if x is a decimal number?

Statement 1: x is greater than 0.5.

Statement 2: x is less than 0.75.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: Both statements together imply that x must be between 0.5 and 0.75. However, neither statement alone defines a specific value for x, thus both are needed for a definitive conclusion.

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 5: Is the decimal representation of y equal to 0.5?

Statement 1: y is equal to 1/2.

Statement 2: y is a decimal number between 0.4 and 0.6.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: Statement (1) directly tells us that y equals 0.5. Statement (2) does not specify that y is equal to 0.5, as it could be any value between 0.4 and 0.6.

Difficulty: Easy

Difficulty Rating: 2.5

Estimated Time: 90

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 6: What is the value of z if z is a decimal number?

Statement 1: z is the product of 0.3 and 0.6.

Statement 2: z is equal to the sum of 0.2 and 0.4.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: Calculating both statements gives z = 0.18 from Statement (1) and z = 0.6 from Statement (2). Thus, both statements are needed to conclude that z has two different values depending on the operation, which is not sufficient to determine a single value.

Difficulty: Hard

Difficulty Rating: 4.5

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 7: What is the value of x if 0.5x + 1.2 = 3.4?

Statement 1: x is a positive integer.

Statement 2: 0.5x = 2.2.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: B

Explanation: From Statement (2), we have 0.5x = 2.2, which implies x = 2.2 / 0.5 = 4.4. This value is not a positive integer. Statement (1) does not provide additional information about x beyond confirming it is positive. Therefore, Statement (2) alone is sufficient to find the value of x.

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 8: If a fraction is defined as a/b, where a and b are integers, what is the value of a/b?

Statement 1: a = 2 and b = 5.

Statement 2: b is twice the value of a.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: Statement (1) provides specific values for a and b, allowing calculation of the fraction (2/5). Statement (2) does not provide specific values for a and b and requires additional information to find the value of the fraction.

Difficulty: Easy

Difficulty Rating: 3.0

Estimated Time: 90

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 9: What is the sum of the fractions 1/4 and 3/8?

Statement 1: The denominators of the two fractions are the same.

Statement 2: The value of 1/4 can be expressed as x/y, where x is 2.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: Statement (1) confirms that the denominators can be made the same, allowing addition. Statement (2) provides partial information but does not directly help in finding the sum without knowing the complete fraction for 1/4.

Difficulty: Medium

Difficulty Rating: 4.0

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 10: Is the value of 1/3 + 1/4 greater than 1/2?

Statement 1: 1/3 + 1/4 = 7/12.

Statement 2: The value of 1/2 can be expressed as 6/12.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: Statement (1) gives the exact sum, 7/12, which can be directly compared to 1/2. Statement (2) alone does not provide enough information to determine the comparison without knowing the sum.

Difficulty: Hard

Difficulty Rating: 4.5

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 11: What is the value of the fraction x/y?

Statement 1: x = 2/3 and y = 4/5.

Statement 2: x = 3/4 and y = 5/6.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

*Explanation: Statement (1) gives x = 2/3 and y = 4/5, allowing the calculation of x/y = (2/3) / (4/5) = (2/3) * (5/4) = 10/12 = 5/6. Statement (2) gives x = 3/4 and y = 5/6, allowing the calculation of x/y = (3/4) / (5/6) = (3/4) * (6/5) = 18/20 = 9/10. However, we need both statements to determine a specific fraction as they yield different values.*

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 12: What is the value of the fraction $\frac{a}{b}$ if a and b are positive integers?

Statement 1: The value of a is 3 times the value of b.

Statement 2: The value of b is 2.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: B

Explanation: Statement 2 gives the value of b as 2. With Statement 1, if a is 3 times b, then a is 6. Thus, $\frac{a}{b} = \frac{6}{2} = 3$, making Statement 2 sufficient alone.

Difficulty: Medium

Difficulty Rating: 3.0

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 13: Is the fraction $\frac{p}{q}$ greater than 1?

Statement 1: The numerator p is 4 and the denominator q is a positive integer.

Statement 2: The ratio of p to q is 0.5.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: B

Explanation: From Statement 2, if the ratio of p to q is 0.5, it implies $p = 0.5q$, which means $\frac{p}{q} = 0.5 < 1$. Therefore, Statement 2 is sufficient alone.

Difficulty: Medium

Difficulty Rating: 3.0

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 14: What is the value of the fraction $\frac{m}{n}$ if both m and n are positive integers?

Statement 1: The value of m is the product of 2 and 5.

Statement 2: The fraction $\frac{m}{n} = \frac{10}{k}$ where k is a positive integer that is greater than 10.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: B

Explanation: Statement 2 gives $m = 10$ and $n = k$. Since k is greater than 10, $\frac{m}{n}$ can yield values less than, equal to, or greater than 1 depending on k. Thus, Statement 2 is sufficient alone.

Difficulty: Hard

Difficulty Rating: 4.0

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 15: What is the value of x if x is a positive fraction?

Statement 1: x = 2/3.

Statement 2: x + 1/2 = 5/6.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: Statement (1) provides a direct value for x, which is sufficient to answer the question. Statement (2) does not give the value of x directly but requires further calculation. Therefore, only Statement (1) is sufficient.

Difficulty: Easy

Difficulty Rating: 3.0

Estimated Time: 90

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 16: What is the value of the fraction x/y if x and y are both positive integers?

Statement 1: x is 3 times y.

Statement 2: y is 12.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: From statement 1, we know that x = 3y, but without knowing y, we cannot determine x/y. Statement 2 gives us y = 12, and substituting this into x = 3y gives x = 36. Thus, x/y = 36/12 = 3. Both statements together allow us to find the value of x/y.

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 17: Is the fraction a/b greater than 1?

Statement 1: a is 2 more than b.

Statement 2: b is less than 5.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

Explanation: From statement 1, we have a = b + 2. For a/b to be greater than 1, b must be less than 2. Statement 2 tells us b < 5, but we need to know more to determine if it is less than 2. Combining both statements, since a = b + 2, we can conclude that b can be at most 3, allowing us to determine a/b is greater than 1.

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 150

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 18: What is the value of the fraction m/n if m and n are integers?

Statement 1: m is 4 times n.

Statement 2: n is a prime number greater than 2.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: From statement 1, we can express m as 4n, which allows us to find m/n = 4n/n = 4. Therefore, statement 1 alone is sufficient. Statement 2 does not provide enough information to determine m/n without knowing the specific value of n.

Difficulty: Hard

Difficulty Rating: 4.0

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 19: If a certain recipe requires 3/4 cup of sugar to make 12 cookies, how many cups of sugar are needed to make 30 cookies?

Statement 1: To make 30 cookies, the recipe requires 3/4 cup of sugar for every 12 cookies.

Statement 2: The amount of sugar required is directly proportional to the number of cookies made.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: C

*Explanation: To find how many cups of sugar are needed for 30 cookies, we can use statement 1 to calculate the sugar needed for 30 cookies as follows: (30 cookies / 12 cookies) * (3/4 cup) = 1.875 cups. Statement 2 confirms that the amounts are proportional, but does not provide the specific measurement needed to make the calculation alone. Therefore, both statements together are sufficient to determine the amount of sugar required.*

Difficulty: Medium

Difficulty Rating: 3.5

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Fractions (DS)

Question 20: What is the sum of 0.75 and a decimal x?

Statement 1: x is equal to 0.25.

Statement 2: The sum of 0.75 and x is less than 1.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: From Statement 1, we can substitute x = 0.25 into the equation and find the sum as 1. From Statement 2, we cannot determine the exact value of x without more information. Thus, Statement 1 alone is sufficient to determine the sum.

Difficulty: Easy

Difficulty Rating: 3.0

Estimated Time: 75

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 21: Is the decimal representation of a certain number y greater than 0.5?

Statement 1: y is equal to 0.6.

Statement 2: The decimal representation of y is in the interval (0.4, 0.7).

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

Explanation: Statement 1 directly gives us y = 0.6 which is greater than 0.5. Statement 2 gives a range that includes values both greater and less than 0.5, so it is not sufficient by itself. Thus, Statement 1 is sufficient.

Difficulty: Medium

Difficulty Rating: 4.0

Estimated Time: 120

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)

Question 22: What is the product of two decimals a and b?

Statement 1: a is 0.3 and b is 0.4.

Statement 2: The product ab is less than 0.25.

A. Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.

C. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

D. EACH statement ALONE is sufficient.

E. Statements (1) and (2) TOGETHER are NOT sufficient.

Correct Answer: A

*Explanation: From Statement 1, we can directly calculate the product ab = 0.3 * 0.4 = 0.12, which is less than 0.25. Statement 2 does not provide exact values for a and b, and thus is not sufficient alone. Therefore, Statement 1 is sufficient.*

Difficulty: Hard

Difficulty Rating: 4.5

Estimated Time: 180

Metadata: section: Data Insights, subsection: Data Sufficiency, topic: Arithmetic DS, subtopic: Decimals (DS)