

ISEE Middle Level Quantitative Reasoning Practice Test Questions PDF

The ISEE middle level Quantitative Reasoning test is one of math section in the Independent School Entrance Examination. Quantitative reasoning problems require little or no calculations; the emphasis is on your ability to reason mathematically. All questions found in the two math sections of the ISEE are linked to the National Council of Teachers of Mathematics (NCTM) Standards.

Numbers and Operations

Directions: Answer the following sample question. To answer the first question, select the answer that best illustrates numbers and operations.

Chris has a basket of apples, 40% of which are red. The rest of the apples are green. If the basket contains 6 red apples, how many green apples does it contain?

- (A) 4
- (B) 6
- (C) 9
- (D) 15

| <u>Column</u> A | <u>Column</u> B |
|--------------------|--------------------|
|--------------------|--------------------|

$$\sqrt{0.81}$$

$$\sqrt{8.1}$$

- (A) The quantity in Column A is greater.
- (B) The quantity in Column B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

Algebraic Concepts

Answer the following sample question. To answer the first question, select the answer that most clearly illustrates the concepts asked for.

Jack and Michael ride their bikes down a straight path, starting at the same place and time. Jack rides at a speed that is 3 times as fast as Michael's speed (M). After 30 minutes, they are 1,000 feet apart. Which equation, when solved for M , would give Michael's speed, in feet per minute?

- (A) $3M - M = 1,000$
- (B) $90M - 1,000 = 30M$
- (C) $30M = 1,000 - 90M$
- (D) $30(M + 3M) = 1,000$

$$\frac{x}{4} + 5 = 25$$
$$6y + 11 = 77$$

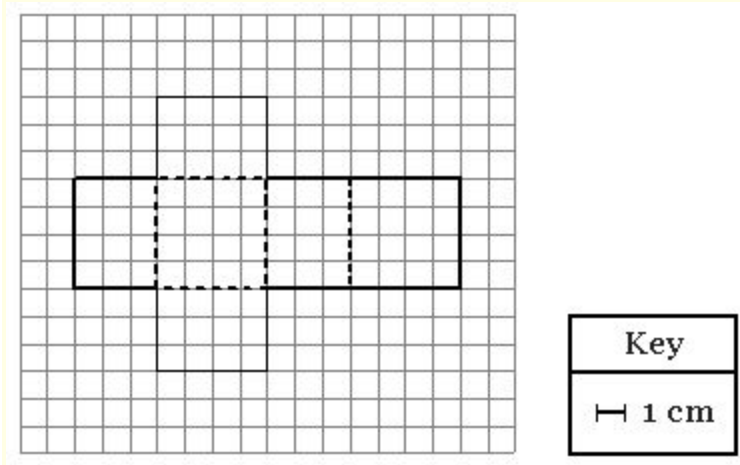
| <u>Column</u> | <u>Column</u> |
|---------------|---------------|
| <u>A</u> | <u>B</u> |
| x | y |

- (A) The quantity in Column A is greater.
- (B) The quantity in Column B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

Geometry

Directions: Answer the following sample question. Select the answer that most clearly illustrates the relationships among the values.

The figure shown is called a net—a two-dimensional representation of a three-dimensional object. When cut out and folded along the dotted lines, a net can be used to create a three-dimensional figure.

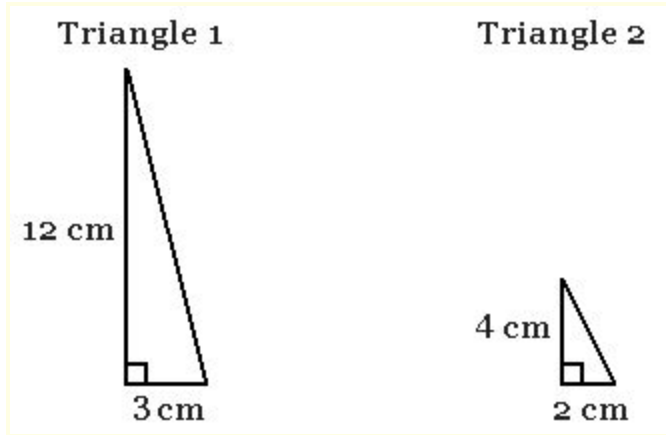


What is the volume of the three-dimensional object represented by the two-dimensional net?

- (A) 36 cm^3
- (B) 48 cm^3
- (C) 64 cm^3
- (D) 80 cm^3

Measurement

Directions: Answer the following sample question. Compare the quantity in Column A to the quantity in Column B, and select the correct comparison from the answer choices shown below the question.



| <u>Column A</u> | <u>Column B</u> |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <p>The area of a triangle similar to</p> <p>Triangle 1 with a scale factor of $\frac{2}{3}$</p> | <p>The area of a triangle similar to</p> <p>Triangle 2 with a scale factor of $\frac{3}{2}$</p> |

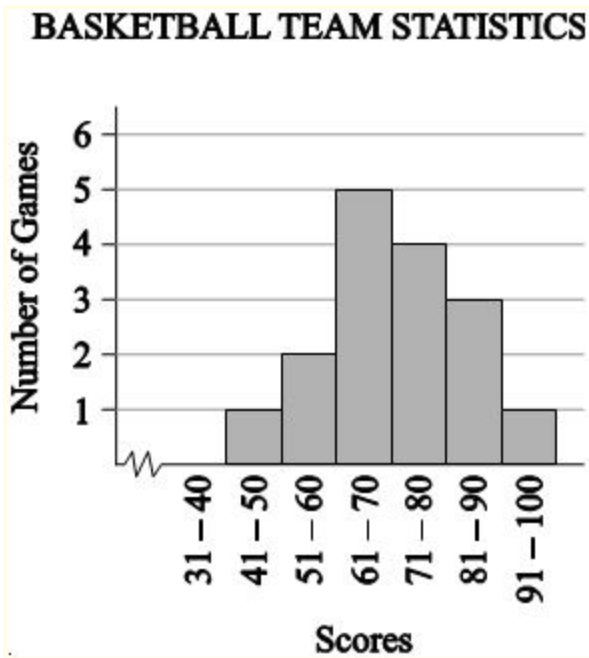
- (A) The quantity in Column A is greater.
- (B) The quantity in Column B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

Data Analysis and Probability

Sample Questions

Directions: Answer the following sample question. To answer the first question, select the answer that best illustrates data analysis and probability.

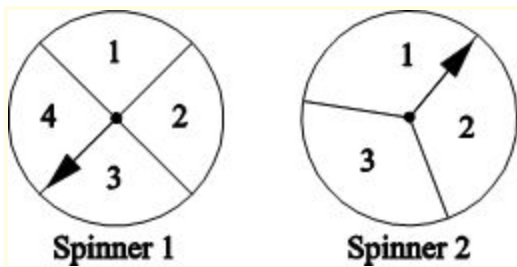
A basketball team has played 16 games this season. The range of points that was scored in each game is displayed in this histogram.



Which measure of central tendency could never be equal to one of the 16 individual scores that were used to create the histogram?

- (A) mean
- (B) median
- (C) mode
- (D) range

Spinner 1 and Spinner 2 are both spun. The results of the two spins are added.



(The sections on Spinner 1 are equal.)

(The sections on Spinner 2 are equal.)

Column A

Column B

For any one time both spinners are spun, the probability that the sum will be 3

For any one time both spinners are spun, the probability that the sum will be 6

- Ⓐ The quantity in Column A is greater.
- Ⓑ The quantity in Column B is greater.
- Ⓒ The two quantities are equal.
- Ⓓ The relationship cannot be determined from the information given.