ISEE Lower Level Mathematics Achievement

ISEE Lower Level Mathematics Achievement tests mathematical skills earned from the very beginning of your school career. The Mathematics Achievement section will test your ability to identify and solve problems related to the NCTM standards in the six areas listed below :

Numbers and Operations
Algebra
Geometry
Measurement
Data Analysis and Probability, and
Problem Solving

Numbers and Operations: Whole Numbers

Sample Questions

Directions: Answer the following sample question. Select the answer that best illustrates numbers and operations.

1.Which whole number is divisible by 9 without a remainder?

    (A) 2,001

    (B) 2,003

    (C) 2,005

    (D) 2,007

2.Which expression correctly uses the distributive property to solve $15 \times (8 + 17)$?

    (A) $(15 \times 8) + 17$

    (B) $(17 \times 8) + 15$

    (C) $(15 + 8) \times (15 + 17)$

    (D) $(15 \times 8) + (15 \times 17)$

Sample Questions

Directions: Answer the following sample question. Select the answer that best illustrates numbers and operations.

1.The teacher drew these shapes on the board.

What fraction of the shapes are squares?

(A) $\frac{1}{8}$

(B) $\frac{1}{4}$

(C) $\frac{3}{8}$

(D) $\frac{1}{2}$

2.Josh is estimating 4.17 × 3.9 to determine if his answer is reasonable. Which is the best way for him to estimate?

(A) 4 × 3

(B) 4 × 4

(C) 5 × 3

(D) 5 × 4

Algebraic Concepts

Sample Questions

Directions: Answer the following sample question. Select the answer that best illustrates algebraic concepts.

1.The number machine only accepts even numbers as input. It performs the same operation on each input number to create an output number.

NUMBER MACHINE	
Input	Output
20	11
16	9
10	6
6	4
4	3

Which input number creates an output of 15?

(A) 22
(B) 24
(C) 28
(D) 30

2.A box contains 24 batteries that are packaged into groups of 3. If n represents the number of packages in the box, which equation would tell how many packages are in the box?
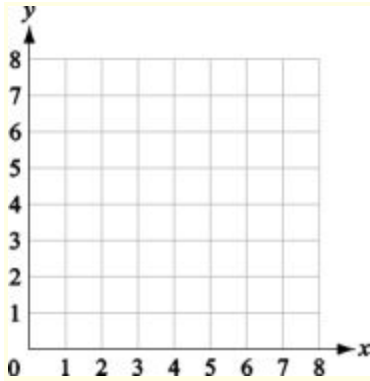
(A) $3 + n = 24$
(B) $n = 24 \div 3$
(C) $n - 3 = 24$
(D) $24 \times n = 3$

Geometry

Sample Questions

Directions: Answer the following sample question. Select the answer that best illustrates geometric operations.

A coordinate graph is shown.

Mackenzie plotted the following points on the coordinate grid.

point *R* (3, 5); point *S* (6, 5); point *T* (8, 2); point *U* (2, 2)

A polygon is formed with vertices *R*, *S*, *T*, and *U* and sides $\overline{RS}$, $\overline{ST}$, $\overline{TU}$, and $\overline{UR}$. Which type of polygon is formed?
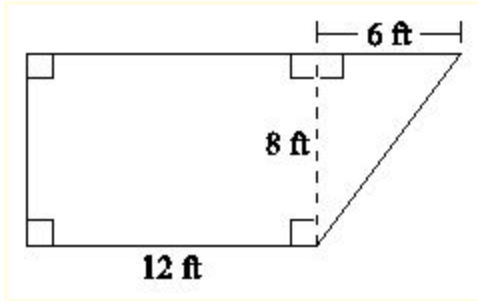
- (A) diamond
- (B) pentagon
- (C) square
- (D) trapezoid

Measurement

Sample Questions

Shown below is a plan for a patio that Mr. Watson is building in his backyard.

According to Mr. Watson's plan, what is the area of the patio?

Ⓐ 48 ft^2

Ⓑ 96 ft^2

Ⓒ 120 ft^2

Ⓓ 216 ft^2

Data Analysis and Probability

Sample Questions

Directions: Answer the following sample question. Select the answer that best illustrates data analysis and probability.

The table shows the results of a school cafeteria's survey of 200 students. On the last day of each month, the cafeteria plans to serve the two most favorite foods.

FAVORITE CAFETERIA FOOD	
Food	**Number of Votes**
pizza	74
meatloaf	31
hamburger	59
turkey sandwich	36

Which two foods will the cafeteria be serving?

- (A) pizza and meatloaf
- (B) hamburger and pizza
- (C) pizza and turkey sandwich
- (D) hamburger and turkey sandwich

Matt randomly selected three cards, without looking, from a stack of letter cards labeled A through K. If none of the cards in the stack repeat, what is the probability that the first card selected is the letter C?

(A) $\dfrac{8}{11}$

(B) $\dfrac{3}{8}$

(C) $\dfrac{3}{27}$

(D) $\dfrac{1}{11}$