Reading Comprehension: Informational

SHSAT English - Week Five

Aim:

- Identify key information and ideas within an informational passage
- Identify the 5 wrong answer traps

Wrong Answer Traps

Wrong answers typically fall into one of five categories. Recognizing these traps can help you eliminate the incorrect answers.

Wrong Answer Trap	Description
Distortion	The answer slightly alters details from a passage so they are no longer correct.
Extreme	The answer takes a stronger position (often more positive or more negative) than the passage takes.
Misused Detail	The answer is a true statement from the passage, but it doesn't answer the question.
Opposite	The answer contradicts information in the passage.
Out of Scope	The answer includes information that is not in the passage.

Can you provide an example of each type of wrong answer trap?

Approaching the Informational Passage

Overview

General approach is similar to other types of passages. You do not need to understand the terminology to be able to answer the questions.
You're not being tested on any outside knowledge, so only answer based on the information inside the passage.

01

Active Reading

Take notes, which should include the main idea of the passage and topic of each paragraph.

02

Read the question and answer choices

03

Predict and answer!

Be wary of the wrong answer traps in the slide above.

5 Types of Questions in Informational Passages

Global Questions

These questions ask you to identify the main idea of the passage. Use your notes during Active Reading to help you answer these questions.

Common traps:

- Out of Scope
- Misused Detail
- Extreme

Detail Questions

These questions ask you for specific information mentioned in the passage.

Common traps:

- Distortion
- Misused Detail

Inference Questions

These questions ask you to figure out the underlying point of a particular phrase or example. Look for clues and make sure you can back up your answer with evidence from the passage.

Common traps:

- Out of Scope
- Misused Detail
- Extreme

Function Questions

These questions ask about the purpose of a particular part of the passage. They can ask about the purpose of a word, sentence, paragraph, detail, or even punctuation.

Common traps:

- Out of Scope
- Distortion

Infographic Questions

These questions ask you how the information in the graph, table, or image supports ideas presented in the passage.

Common traps:

- Out of Scope
- Distortion

Explain the difference between Distortion and Extreme. Provide an example of each to illustrate your answer.

Statistics and Probability

SHSAT Math - Week Five

Statistics

Mean, Median, Mode, Range

- **Mean** (Average) = Sum of values/Number of values
- **Median:** Middle value in a data set when values are sorted in ascending order. If the number of values is even (i.e., there are 2 values in the middle), the median is the average of those 2 values.
- **Mode:** The value that appears most often in a data set. There can be multiple modes.
- **Range** = highest value - lowest value

Example: Xiaomei ran 5 laps. The times of each lap are 4.0, 4.8, 4.2, 4.5, and 4.0 minutes. Find the:

a) Mean
b) Median
c) Mode
d) Range

Probability

Probability

- The likelihood that an event will happen. Formula:

$$\text{Probability} = \frac{\text{Number of Desired Outcomes}}{\text{Number of Possible Outcomes}}$$

- Probability always falls between 0 and 1, inclusive. A probability of 0 indicates the event will never happen, and a probability of 1 indicates the event will certainly happen.
- **Complementary events:** If the probability of picking a white shirt is ¾ , the probability of not picking a white shirt is ¼. The probability of 2 complementary events add up to 1.
- **Independent events:** One event happening does not affect the chance that another will happen. To find out the probability that 2 independent events will occur, multiply their probabilities. For example: The probability that I will roll a 6 and flip heads is: ⅙ * ½ = 1/12.

Permutations and Combinations

Permutations and Combinations

- **Permutations:** Sequences in which *order matters.* For example, for a numerical lock pad, if the key is 4 - 7 - 2, you cannot rearrange the numbers and the lock would still open => order matters.
- **Combinations:** How many ways can certain things be combined, *order doesn't matter.* For example: A fruit salad is a combination of apple, banana, and grape. It doesn't matter if the order is banana, apple, and grape, it's still the same fruit salad.

Example

Permutation: How many ways can you list your top 3 desserts, in order, out of a list of 10?

- In this case, order matters => Permutation
- For your top dessert, you have 10 different choices. For your second favorite, you have 9 choices (because you have already chosen one as your favorite), and for your third favorite, you have 8 choices. => The number of ways you can list your top 3 desserts = 10*9*8 = 720 ways.

Combination: How many ways can you choose 3 desserts out of a list of 10?

- In this case, order doesn't matter => Combination
- Like above, you have 10 choices for your first dessert, 9 for your second, and 8 for your third. However, choosing cake, ice cream, and brownies is the same as choosing ice cream, brownies, and cake, so you have to account for these redundancies. For each combination of 3 desserts, there are 3*2*1 = 6 permutations. So to find the number of combinations of 3 desserts out of 10, divide the permutations by the redundancies: 720/6 = 120.

And this is the fancy permutation formula: You have **n** items and want to find the number of ways **k** items can be ordered:

$$P(n,k) = \frac{n!}{(n-k)!}$$

$$C(n,k) = \frac{n!}{(n-k)!k!}$$

Practice

An interior designer wants to pick out 2 different varieties of plants to place around the house. There are 6 varieties of plants. How many possible combinations of plants are there?