BASIC STRATEGIES

SECTION 2

Use this section to review some of the best test-taking strategies for the SSAT Math section. As you practice, keep in mind that not all problems are solved in the same manner. As a student with your own unique learning style, you may also find that some strategies work better for you than others. Try out all of the methods below, and identify the strategies that work best for you.

Most of the math questions on the SSAT are word problems, so your job is to find a way to convert the wording of these questions into math concepts that you can recognize and solve. When you first encounter a problem, use the following steps to get started.

READ THE QUESTION CAREFULLY

Read through the whole question. Don't assume you understand the question just by reading the first few words! Reading the whole question will help you avoid making assumptions that can lead to careless errors.

If you see unfamiliar or difficult-looking material, stay calm and keep reading until the end of the question. There might be more information in the question that will help you figure out the solution. If you still think a question is too difficult after you have finished reading the whole thing, then you should circle it in your question booklet, skip it, and come back to it if you have time. Don't get anxious that you couldn't solve a question; not every student is expected to answer every question, and some questions might be beyond your grade level.

Here is a simple example that we will work through to demonstrate these basic test-taking strategies. Read the whole question carefully:

A triangle has three sides with lengths 3, 4, and 5. What is the perimeter of the triangle?

(A) 3
(B) 7
(C) 9
(D) 12
(E) 15

UNDERLINE KEY WORDS

Underline or circle any information given in the question that will help you solve it. Our example question should now look something like this:

A triangle has three sides with lengths 3, 4, and 5. What is the perimeter of the triangle?

IDENTIFY WHAT THE QUESTION IS ASKING

Ask yourself, "What is the question asking me to solve?" This is especially important for word problems. Sometimes the wording of a question can be confusing, so make it simpler for yourself and summarize in your own words what the question is asking for. Pay close attention to the key words you have underlined, and take a moment to remember their meanings as you summarize the question.

In our example question, you are being asked to find the perimeter of the triangle. This was one of the words we underlined in the question. To remind yourself that this is what the question is asking, you might want to underline this word again:

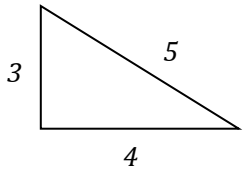
A triangle has three sides with lengths 3, 4, and 5. What is the perimeter of the triangle?

How would you explain the "perimeter," in your own words? You might remember that the perimeter is the length of the outline of the triangle.

DRAW A CHART OR DIAGRAM

Charts and diagrams are great tools to help you visualize the problem and organize your information. In our example question, you might try drawing a quick sketch of a triangle.

Then, fill in any information you are given in the question. You can write in the lengths of all three sides:



COME UP WITH A STRATEGY

Strategize the best way to solve the question. Sometimes finding the answer requires some thought if there are multiple steps involved. Think about all of the information provided in the question and how it is related. Think about where you have seen this type of question before, and what methods you have used to solve similar types of questions. If there is a formula that you know that could help, write it down.

Here's a strategy we could use to solve our example question.

- *We know*: the lengths of the sides of the triangle are 3, 4, and 5.
- *We want*: the perimeter, which is the length of the outline of the triangle.
- *Our strategy*: add up the lengths of all three sides of the triangle.

$$perimeter = 3 + 4 + 5 = 12$$

Is our solution one of the answer choices? It is indeed! The answer is (D) 12.

CHECK YOUR ANSWER

Always check your work to make sure that you picked the best answer among all of the options the SSAT gave you! Double-check all of your arithmetic to make sure that you didn't make any careless errors.

Make sure that you solved for what the question was asking. For example, if the question asked to solve for perimeter, make sure you didn't solve for area.

Try to determine whether or not your answer seems reasonable based on context. For example, if the length of one side of the triangle is 3, the perimeter cannot be 3, so answer (A) in our example is unreasonable.

Finally, check that you bubbled in the answer on your answer sheet correctly. It would be a shame to have solved the question correctly and not get credit!

PUTTING IT ALL TOGETHER

Here is another example question that is a bit more complicated. Use the same question-solving steps to try it out.

1. **Read the question:**

   The width of a rectangular field is one-quarter its length. If the length is 16, what is the perimeter of the field?

   (A) 4
   (B) 24
   (C) 36
   (D) 40
   (E) 64

2. **Underline key words:**

   The width of a rectangular field is one-quarter its length. If the length is 16, what is the perimeter of the field?

3. **Ask yourself, "What is the question asking me to solve?"**

   Just like our first example, you are being asked to find the perimeter of the rectangle. Put this in your own words: the perimeter is the length of the outline of the rectangle.

4. **Draw a diagram.**

   Try drawing a quick sketch of a rectangle and fill in any information given in the question:

   width = ¼ length

   length = 16

5. **Strategize a solution.**

   We know: length $= 16$

   $$\text{width} = \frac{1}{4}\text{of length} = \frac{1}{4}\text{ of } 16 = \frac{1}{4} \times 16 = \frac{16}{4} = 4$$

   We want: the perimeter of the whole rectangle.

   Our strategy: we can use a formula that relates a rectangle's perimeter to its length and width.

$$perimeter = (2 \times length) + (2 \times width)$$

We can now plug in the values and solve:

$$perimeter = (2 \times 16) + (2 \times 4) = 32 + 8 = 40.$$

If you did not remember this formula, look at the diagram again. To find the perimeter, we need to add up the lengths of the four sides of the rectangle. Our sides include two lengths and two widths, so here's how we would add them up:

$$perimeter = 16 + 4 + 16 + 4 = 40$$

There are often many different ways to solve a problem, so think creatively to find a strategy that works for you!