

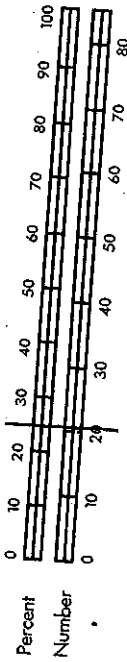
6 Visualizing Percents

Many people find percents difficult. A percent is very different from a number such as 25. You can easily imagine 25 golf balls. Or you might think of 25 dollars or 25 feet. Twenty-five of something is easy to visualize. You can picture it in your mind.

It is harder to form a mental picture of 25 percent. That is because a percent compares things. It compares the number to 100. Think of the percent sign (%) as meaning "out of 100." Thus 25 percent means "25 out of 100." This may help you understand what 25 percent means. But it doesn't help you make a mental picture of 25 percent.

To picture 25 percent, you need an example. That is because 25 percent mean different things. Getting 25 percent of a small number is different from getting 25 percent of a large number. For example, 25 percent of \$83 is much less than 25 percent of \$8,300.

Is there a way to picture an example like 25 percent of \$83? One way is to sketch two bars, both of the same length. One bar, the percent bar, has 100 units. The other, the number bar, has 83 units.



Notice that the sketch has a vertical line. This line goes through 25 on the percent bar and hits the number bar at about 21. So the diagram helps you "see" a percent. It shows that 25 percent of \$83 is about \$21.

Making bar diagrams for percents can assist you in comprehending what the percents mean. Your diagrams need not be beautiful; in fact, they can be very rough. They are also a useful way to doublecheck answers you arrive at with a calculator.

Main Idea 1 _____

	Answer	Score
Mark the <i>main idea</i>	<input checked="" type="checkbox"/> M	15
Mark the statement that is <i>too broad</i>	<input checked="" type="checkbox"/> B	5
Mark the statement that is <i>too narrow</i>	<input checked="" type="checkbox"/> N	5

- A bar diagram can help you if you have trouble picturing percents.
- Solving problems with percents is a useful skill.
- Twenty-five percent of 83 is about 21.

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Score 15 points for each correct answer.

Score _____

Subject Matter

- 2 This passage is mainly about _____
- doing percent problems in your head.
 - using a calculator for percent problems.
 - estimating percents with diagrams.
 - finding percents of large numbers.

Supporting Details

- 3 If you draw a percent diagram, the two bars in it must be _____
- four inches long.
 - divided into 10 equal parts.
 - drawn on graph paper.
 - the same length.

Conclusion

- 4 The first three paragraphs explain why _____
- percents are not numbers.
 - it is difficult to make mental pictures of percents.
 - 25 percent of \$83 is about \$21.
 - 25 golf balls is different from 25 dollars.

Clarifying Devices

- 5 A percent diagram would not help you _____
- to estimate an answer to a percent problem.
 - to check an answer to a percent problem.
 - to avoid making errors in percent problems.
 - if you didn't know what *percent* means.

Vocabulary in Context

- 6 The word vertical means _____
- from side to side.
 - diagonal.
 - up and down.
 - made up of several small pieces.

Add your scores for questions 1-6. Enter the total here _____ Total Score _____