

## Nonfiction Reading Test

### *Diamonds*

**Directions:** Read the following passage and answer the questions that follow. Refer to the text to check your answers when appropriate.

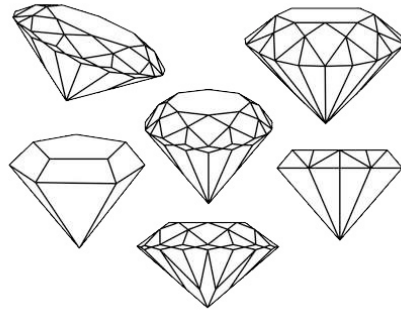
Diamond is the hardest material on Earth. Yet, gem cutters shape them. If diamonds are so hard, how do they cut them into shape? They use other diamonds of course!

Not all diamonds are the same. Some are harder than others. The hardness of a diamond depends on two things: its purity and its structure. Let's discuss purity first.

Diamonds come in many colors: grey, white, yellow, blue, pink, purple, orange and black. Red diamonds are the rarest of all. This makes them worth a lot of money. Yet, pure diamonds are colorless. They are all carbon. They are transparent like glass.

Colors found in diamonds come from impurities. They have another element besides carbon. They have a carbon defect. For example, yellow diamonds have nitrogen in them. The nitrogen is yellow. Blue diamonds have boron trapped in their crystal structure. The boron is blue.

The purity or color of a diamond is important to its hardness. Pure diamonds are harder than impure diamonds. But purity isn't the only thing that matters. Structure also affects hardness.



The carbon atoms in a diamond are arranged in a crystal structure. Some crystal structures are perfect. A diamond with a perfect crystal structure is harder than one with flaws. So pure, colorless crystal diamonds are the hardest of all.

Good gemstones should be hard. This is what makes diamonds so great for jewelry. Some gems, such as azurite, are soft and easy to scratch. Azurite looks pretty, but it will scratch if worn daily. Diamonds do not scratch easily. Only a diamond can scratch another diamond.

That's why you can wear a diamond ring while doing chores, if you want. The gem will not need polishing. Just don't go fist bumping other people with fancy engagement rings. It will end badly.

Name: \_\_\_\_\_

## ***Diamonds (Questions)***

1. According to the text, how do gem makers shape diamonds?
  - a) They use metal saws.
  - b) They use other diamonds.
  - c) They use sand paper.
  - d) They use large knives.
  
2. What are the two factors that determine a diamond's hardness according to the text?
  - a) Structure and shape
  - b) Color and carbon
  - c) Purity and structure
  - d) Purity and color
  
3. Which type of diamond DOES NOT have a carbon defect?
  - a) Clear diamond
  - b) Blue diamond
  - c) Red diamond
  - d) Yellow diamond
  
4. The author of the article would most likely AGREE with which statement?
  - a) Azurite is much harder than diamond.
  - b) Diamond is much prettier than azurite.
  - c) Azurite is much prettier than diamond.
  - d) Diamond is much harder than azurite
  
5. What causes a diamond to turn yellow?
  - a) Nitrogen
  - b) Carbon
  - c) Azurite
  - d) Boron
  
6. A pure diamond is made entirely from which?
  - a) Nitrogen
  - b) Azurite
  - c) Carbon
  - d) Boron
  
7. Why are red diamonds worth so much money?
  - a) They have the highest purity of all diamonds.
  - b) They are soft and easy to shape.
  - c) They are the hardest diamond of all.
  - d) They are the rarest of all diamonds.



