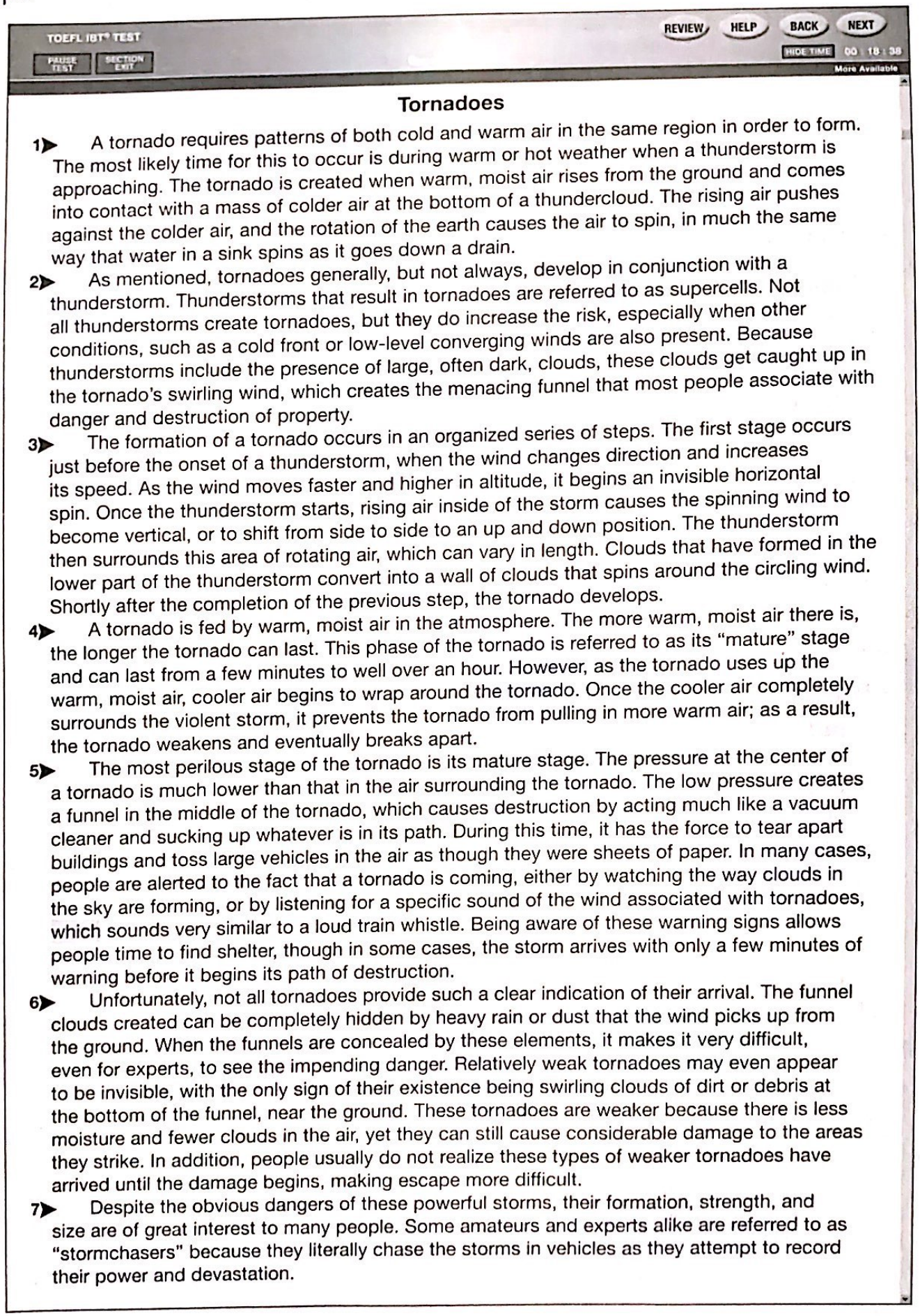
Example



Tornadoes

1▶ A tornado requires patterns of both cold and warm air in the same region in order to form. The most likely time for this to occur is during warm or hot weather when a thunderstorm is approaching. The tornado is created when warm, moist air rises from the ground and comes into contact with a mass of colder air at the bottom of a thundercloud. The rising air pushes against the colder air, and the rotation of the earth causes the air to spin, in much the same way that water in a sink spins as it goes down a drain.

2▶ As mentioned, tornadoes generally, but not always, develop in conjunction with a thunderstorm. Thunderstorms that result in tornadoes are referred to as supercells. Not all thunderstorms create tornadoes, but they do increase the risk, especially when other conditions, such as a cold front or low-level converging winds are also present. Because thunderstorms include the presence of large, often dark, clouds, these clouds get caught up in the tornado's swirling wind, which creates the menacing funnel that most people associate with danger and destruction of property.

3▶ The formation of a tornado occurs in an organized series of steps. The first stage occurs just before the onset of a thunderstorm, when the wind changes direction and increases its speed. As the wind moves faster and higher in altitude, it begins an invisible horizontal spin. Once the thunderstorm starts, rising air inside of the storm causes the spinning wind to become vertical, or to shift from side to side to an up and down position. The thunderstorm then surrounds this area of rotating air, which can vary in length. Clouds that have formed in the lower part of the thunderstorm convert into a wall of clouds that spins around the circling wind. Shortly after the completion of the previous step, the tornado develops.

4▶ A tornado is fed by warm, moist air in the atmosphere. The more warm, moist air there is, the longer the tornado can last. This phase of the tornado is referred to as its "mature" stage and can last from a few minutes to well over an hour. However, as the tornado uses up the warm, moist air, cooler air begins to wrap around the tornado. Once the cooler air completely surrounds the violent storm, it prevents the tornado from pulling in more warm air; as a result, the tornado weakens and eventually breaks apart.

5▶ The most perilous stage of the tornado is its mature stage. The pressure at the center of a tornado is much lower than that in the air surrounding the tornado. The low pressure creates a funnel in the middle of the tornado, which causes destruction by acting much like a vacuum cleaner and sucking up whatever is in its path. During this time, it has the force to tear apart buildings and toss large vehicles in the air as though they were sheets of paper. In many cases, people are alerted to the fact that a tornado is coming, either by watching the way clouds in the sky are forming, or by listening for a specific sound of the wind associated with tornadoes, which sounds very similar to a loud train whistle. Being aware of these warning signs allows people time to find shelter, though in some cases, the storm arrives with only a few minutes of warning before it begins its path of destruction.

6▶ Unfortunately, not all tornadoes provide such a clear indication of their arrival. The funnel clouds created can be completely hidden by heavy rain or dust that the wind picks up from the ground. When the funnels are concealed by these elements, it makes it very difficult, even for experts, to see the impending danger. Relatively weak tornadoes may even appear to be invisible, with the only sign of their existence being swirling clouds of dirt or debris at the bottom of the funnel, near the ground. These tornadoes are weaker because there is less moisture and fewer clouds in the air, yet they can still cause considerable damage to the areas they strike. In addition, people usually do not realize these types of weaker tornadoes have arrived until the damage begins, making escape more difficult.

7▶ Despite the obvious dangers of these powerful storms, their formation, strength, and size are of great interest to many people. Some amateurs and experts alike are referred to as "stormchasers" because they literally chase the storms in vehicles as they attempt to record their power and devastation.