The study of the analog position of mental representation has many fascinating branches which help illuminate the inner workings of our minds and how we perceive images in our mind‘s eye. This theory points to the link between the time it takes to solve mental problems and their complexity.   
  
In a now-famous study, Stephen Kosslyn asked subjects to imagine an animal, such as a rabbit, next to either an elephant or a fly. When the image was formed, Kosslyn would ask whether or not the target animal had a particular attribute. For example, Kosslyn might say, ―elephant, rabbit,‖ and then ―leg.‖ He found that it took subjects longer to answer when the target animal was next to the large animal than when it was next to the small animal. Kosslyn interpreted this to mean that subjects had to zoom in on the image to detect the particular feature. Just as one has difficulty seeing details on small objects, so the subjects could not simply mentally ―see‖ details on the smaller object in their mental image.   
  
Second, Kosslyn and colleagues demonstrated that the time it takes to scan between two points depends on the distance between the two points [in a memorized image]. In one experiment, subjects memorized an array of letters separated by different distances. Kosslyn found that the further apart the letters were from each other, the longer it took to answer questions about one of the letters. One of the principal hypotheses of the analog position of mental representation, which is the idea that mental processing requires one to move sequentially through all intervening steps to solve a problem, is that mental images have regular properties.   
  
In a similar experiment, Kosslyn had subjects memorize pictures of objects like a plane or a motorboat. Then he had them focus on one part of the object (e.g., the motor) and move to another (e.g., the anchor). He found that the time it took to determine whether the second part was present depended on the distance between the two parts in the memorized picture.   
  
Using a completely different paradigm, Shepard and Feng tested the amount of time that it would take for subjects to specify whether two arrows on unfolded blocks matched up. They found a linear relationship between the number of folds between the arrows and the time it took to make this judgment, suggesting that subjects went through a discrete series of organized steps in order to solve this problem.   
  
The final type of experiment showing that mental images have regular properties is perhaps the most famous: mental rotation experiments. In 1971, Shepard and Metzler tested subjects‘ abilities to make complex figure comparisons. They presented subjects with a three dimensional ―standard‖ figure and a comparison figure which was either identical to the standard figure, or its mirror image; the comparison stimulus was rotated, either clockwise or into the third dimension. Shepard and Metzler found that the time needed to judge whether the comparison stimulus was identical or a mirror image depended directly on the size of the angle between the target orientation and the orientation of the standard.

1. According to the way it is presented by the author in the passage, the analog position of mental representation argues that:

A. mental processing requires one to go sequentially through all intervening steps to solve a problem.

B. one typically uses short cuts to solve mental problems.

C. it should take longer to solve more complex problems.

D. most problems are not able to be solved by people without help.

E. the closer two points are the more time it takes to mentally scan between them

2. According to the scanning experiments mentioned in the passage, it should take longer to scan longer distances because the subjects:

A. believe that there is no relationship between distance and time.

B. have to keep time with a metronome set up by the experimenter.

C. form a mental picture of the scene and go through all the intervening positions in the picture.

D. are tricked by the experimenter into taking a longer time.

E. tend to forget things quickly

3. According to the passage, why does Kosslyn say it takes longer to identify attributes of objects when they are next to a bigger object than when they are next to a smaller object?

A. Because one scans objects in order of size from larger to smaller

B. Because the larger object covers the smaller object and one must move it out of the way

C. Because large and small objects have all the same features and so interfere with each other

D. Because one must zoom in to see parts of the smaller object when it is next to a larger object

E. Because the larger object looks more visually imposing