



Questions 31–40

- People appear to be born to compute. The numerical skills of children develop so early and so inexorably that it is easy to imagine an internal clock of mathematical maturity guiding their growth. Not long after learning to walk and talk, they can set the table with impressive accuracy—one plate, one knife, one spoon, one fork, for each of the five chairs. Soon they are
- (5) capable of noting that they have placed five knives, spoons, and forks on the table and, a bit later, that this amounts to fifteen pieces of silverware. Having thus mastered addition, they move on to subtraction. It seems almost reasonable to expect that if a child were secluded on a desert island at birth and retrieved seven years later, he or she could enter a second-grade mathematics class without any serious problems of intellectual adjustment.
- (10) Of course, the truth is not so simple. In the twentieth century, the work of cognitive psychologists illuminated the subtle forms of daily learning on which intellectual progress depends. Children were observed as they slowly grasped—or, as the case might be, bumped into—concepts that adults take for granted, as they refused, for instance, to concede that quantity is unchanged as water pours from a short stout glass into a tall thin one. Psychologists have since demonstrated
- (15) that young children, asked to count the pencils in a pile, readily report the number of blue or red pencils but must be coaxed into finding the total. Such studies have suggested that the rudiments of mathematics are mastered gradually and with effort. They have also suggested that the very concept of abstract numbers—the idea of a oneness, a twoness, a threeness that applies to any class of objects and is a prerequisite for doing anything more mathematically
- (20) demanding than setting a table—is itself far from innate.



31. What does the passage mainly discuss?
- (A) Trends in teaching mathematics to children
 - (B) The use of mathematics in child psychology
 - (C) The development of mathematical ability in children
 - (D) The fundamental concepts of mathematics that children must learn
32. It can be inferred from the passage that children normally learn simple counting
- (A) soon after they learn to talk
 - (B) by looking at the clock
 - (C) when they begin to be mathematically mature
 - (D) after they reach second grade in school
33. The word “illuminated” in line 11 is closest in meaning to
- (A) illustrated
 - (B) accepted
 - (C) clarified
 - (D) lighted
34. The author implies that most small children believe that the quantity of water changes when it is transferred to a container of a different
- (A) color
 - (B) quality
 - (C) weight
 - (D) shape
35. According to the passage, when small children were asked to count a pile of red and blue pencils they
- (A) counted the number of pencils of each color
 - (B) guessed at the total number of pencils
 - (C) counted only the pencils of their favorite color
 - (D) subtracted the number of red pencils from the number of blue pencils
36. The word “They” in line 17 refers to
- (A) mathematicians
 - (B) children
 - (C) pencils
 - (D) studies
37. The word “prerequisite” in line 19 is closest in meaning to
- (A) reason
 - (B) theory
 - (C) requirement
 - (D) technique
38. The word “itself” in line 20 refers to
- (A) the total
 - (B) the concept of abstract numbers
 - (C) any class of objects
 - (D) setting a table
39. With which of the following statements would the author be LEAST likely to agree?
- (A) Children naturally and easily learn mathematics.
 - (B) Children learn to add before they learn to subtract.
 - (C) Most people follow the same pattern of mathematical development.
 - (D) Mathematical development is subtle and gradual.
40. Where in the passage does the author give an example of a hypothetical experiment?
- (A) Lines 3–6
 - (B) Lines 7–9
 - (C) Lines 11–14
 - (D) Lines 17–20