Titan Learning Center
Mathematics ACT Prep
Set B-Week 3

Solve each problem, circling the correct answers. Remember that figures are not necessarily drawn to scale.

1. In \( \triangle ABC \), the sum of the measures of \( \angle A \) and \( \angle B \) is 47°. What is the measure of \( \angle C \)?
   A. 47°
   B. 86°
   C. 94°
   D. 133°
   E. 143°

2. In the school cafeteria, students choose their lunch from 3 sandwiches, 3 soups, 4 salads, and 2 drinks. How many different lunches are possible for a student who chooses exactly 1 sandwich, 1 soup, 1 salad, and 1 drink?
   F. 2
   G. 4
   H. 12
   J. 36
   K. 72

3. The square below is divided into 3 rows of equal area. In the top row, the region labeled A has the same area as the region labeled B. In the middle row, the 3 regions have equal areas. In the bottom row, the 4 regions have equal areas. What fraction of the square’s area is in a region labeled A?
   F. \( \frac{1}{9} \)
   G. \( \frac{3}{9} \)
   H. \( \frac{6}{9} \)
   J. \( \frac{13}{12} \)
   K. \( \frac{13}{36} \)
4. The functions $y = \sin x$ and $y = \sin(x + a) + b$, for constants $a$ and $b$, are graphed in the standard $(x,y)$ coordinate plane below. The functions have the same maximum value. One of the following statements about the values of $a$ and $b$ is true. Which statement is it?

A. $a < 0$ and $b = 0$
B. $a < 0$ and $b > 0$
C. $a = 0$ and $b > 0$
D. $a > 0$ and $b < 0$
E. $a > 0$ and $b > 0$

5. For 2 consecutive integers, the result of adding the smaller integer and triple the larger integer is 79. What are the 2 integers?

A. 18, 19
B. 19, 20
C. 20, 21
D. 26, 27
E. 39, 40