Mathematical Reasoning Assessment

Assessment of mathematical problem-solving skills

# Question 1

Each student choosing from the art class supplies selects 1 paintbrush and 1 paint color. The table shows the options available. How many different painting setups are possible?

|  |  |
| --- | --- |
| Sandwich | Drink |
| Turkey | Water |
| Ham | Juice |
| Veggie | Milk |
| Chicken |  |

* (A) 8
* (B) 5
* (C) 17
* (D) 20
* (E) 15 ✓

Explanation: Using the multiplication principle: 3 paintbrush options × 5 paint color options = 15 total combinations.

Subject: Quantitative Math | Unit: Data Analysis & Probability | Topic: Counting & Arrangement Problems

# Question 2

A rectangular container holds 4 cylinders in a 2×2 grid of cylindrical cans. If each cylinder has a radius of 3 centimeters, what are the closest dimensions, in centimeters, of the rectangular container?

* (A) 6 × 12 × 6
* (B) 11 × 11 × 6
* (C) 12 × 12 × 6 ✓
* (D) 12 × 6 × 6
* (E) 14 × 14 × 8

Explanation: Each cylinder has diameter 6 cm. The arrangement requires 12 × 12 × 6 cm dimensions.

Subject: Quantitative Math | Unit: Geometry and Measurement | Topic: Solid Figures (Volume of Cubes)