@title Merchandise Combination Count

@description Counting the number of unique merchandise combinations using given clothing options

@question A sports store sells sets consisting of 1 cap and 1 T-shirt. The table below shows the available colors for each item. How many different sets can be made?

@instruction Select the correct number of unique sets from the given options.

@difficulty easy

@Order 1

@option Six

@option Eight

@@option Nine

@option Ten

@option Twelve

@explanation There are 3 cap colors and 3 T-shirt colors. Total combinations = 3 \times 3 = 9.

@subject Quantitative Math

@unit Problem Solving

@topic Numbers and Operations

@plusmarks 1

|  |  |  |
| --- | --- | --- |
| Cap Color | T-Shirt Color |  |
| Blue, Black, Red | White, Yellow, Green |  |

![Image placeholder for cap and T-shirt color table]

@title Dimensions of a Box with Cylindrical Cans

@description Estimating the dimensions of a rectangular box containing tightly packed cylindrical cans

@question The top view of a rectangular box containing 4 tightly packed cylindrical cans is shown. If each can has a radius of 3 cm, which of the following is closest to the dimensions, in centimeters, of the box?

@instruction Select the correct dimensions from the given options.

@difficulty moderate

@Order 2

@option $6 \times 6 \times 6$

@@option $6 \times 6 \times 12$

@option $3 \times 6 \times 12$

@option $6 \times 9 \times 12$

@option $9 \times 9 \times 12$

@explanation Each can has a diameter of $2 \times 3 = 6$ cm. Since they are arranged $2 \times 2$, the base is $6 \times 6$ cm and the height is 12 cm.

@subject Quantitative Math

@unit Geometry and Measurement

@topic Area & Volume

@plusmarks 1

![Image placeholder for box with 4 cans]