@title Uniform Combinations Redux

@description Explore combinations of clothing items.

@question At a sports club, members can choose 1 cap and 1 pair of sneakers. There are 4 cap colors and 3 sneaker styles. How many unique outfit combinations are possible?

@instruction Select the correct number of combinations.

@difficulty easy

@Order 1

@option 7

@option 12

@@option 4×3=12

@option 16

@explanation Since each combination pairs one of 4 caps with one of 3 sneakers, total combinations = 4 × 3 = 12.

@subject Quantitative Math

@unit Problem Solving

@topic Numbers and Operations

@plusmarks 1

@title Sphere Packing Dimensions

@description Find dimensions of a compact box containing spheres.

@question A 3×2×1 arrangement of identical spheres (each with radius \(r\)) fits snugly in a rectangular box. Which choice best represents the box’s dimensions in terms of \(r\)?

@instruction Choose the closest match.

@difficulty moderate

@Order 2

@option \(2r \times 3r \times r\)

@@option \(6r \times 4r \times 2r\)

@option \(6r \times 6r \times 2r\)

@option \(4r \times 3r \times 2r\)

@explanation A 3-sphere length spans a diameter thrice (3×2r = 6r), width spans two diameters (4r), height spans one diameter (2r).

@subject Quantitative Math

@unit Problem Solving

@topic Geometry

@plusmarks 1