

Solutions

2.1 Area scales by the square of the length factor: $3^2=9$.

2.2 Volume scales by the cube: $3^3=27$.

2.3 Interior-angle sum $=(5-2)\times 180=540^\circ$.

2.4 False. Equal angles alone establish similarity, not equal size. Use corresponding lengths in the same order. Convert linear units before calculating area or volume, or square/cube the conversion factor correctly.

2.5 A The multiplier that relates corresponding lengths in similar shapes.

3.1 Length ratio 3:2, area 9:4. Area scales as the square and volume as the cube of the length factor, assuming genuine geometric similarity.