

NAME: _____

1. The surface areas of two similar solids are 196 m^2 and 676 m^2 . The volume of the larger one is 2197 m^3 . What is the volume of the smaller one?
2. The surface areas of two similar solids are 180 m^2 and 845 m^2 . The volume of the larger one is 2197 m^3 . What is the volume of the smaller one?
3. The ratio of the volumes of two similar solids is $64 : 729$. Which of the following could be surface areas of the solids?
[A] 32 square units, 162 square units
[B] 8 square units, 27 square units
[C] 4 square units, 9 square units
[D] 64 square units, 729 square units
[E] none of these
4. The areas of corresponding faces of two similar pentagonal prisms are 81 cm^2 and 144 cm^2 . What is the ratio of the corresponding side lengths? Of the perimeters? Of the volumes?
5. The areas of corresponding faces of two similar triangular prisms are 16 cm^2 and 121 cm^2 . What is the ratio of the corresponding side lengths? Of the perimeters? Of the volumes?
6. A dilation is made of a sphere using a scale factor of 3. By what factor does the volume of the sphere change?
7. A glass sphere weighs 0.5lb. How much does another such sphere weigh if its diameter is five times as large?
[A] 2.5 lb [B] 62.5 lb
[C] 69.8 lb [D] 12.5 lb
8. A glass sphere weighs 0.9lb. How much does another such sphere weigh if its diameter is eight times as large?
[A] 460.8 lb [B] 468.1 lb
[C] 57.6 lb [D] 7.2 lb
9. A design on a balloon is 2 cm wide when the balloon holds 71 cm^3 of air. How much must the balloon hold for the design to be 4cm wide?
[A] 568 cm^3 [B] 284 cm^3
[C] 657 cm^3 [D] 142 cm^3
10. A design on a balloon is 3 cm wide when the balloon holds 44 cm^3 of air. How much must the balloon hold for the design to be 12cm wide?
[A] 2816 cm^3 [B] 2905 cm^3
[C] 704 cm^3 [D] 176 cm^3

[1] 343 m^3 _____

[2] 216 m^3 _____

[3] A

[4] $3:4; 3:4; 27:64$ _____

[5] $4:11; 4:11; 64:1331$ _____

[6] 27 _____

[7] B

[8] A

[9] A

[10] A