

Grade 7 - Area, Volume and Surface Area - Quiz

Common Core 7.G.B.6 · maths-pdf.fr/en/

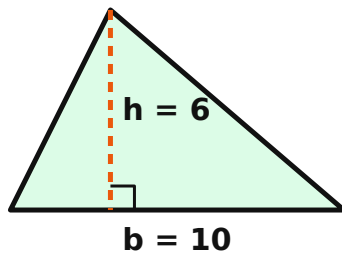
Name: _____ Class: _____ Date: ____/____/____

Answer all 10 multiple-choice questions on the area of triangles, quadrilaterals, and polygons, and the volume and surface area of right prisms, including composite figures. Pick the single best answer, then read the explanation to see why it is right and which common mistake each wrong choice shows. A score of 8 or more means you are ready for the test.

Grade 7 · Common Core State Standards: **7.G.B.6**

Questions

Question 1

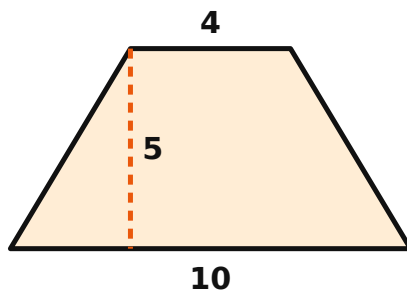


What is the area of a triangle with base 10 and height

6?

- A. 60
- B. 16
- C. 15
- D. 30

Question 2



What is the area of a trapezoid with bases 4 and 10

and height 5?

- A. 70
- B. 20
- C. 50
- D. 35

Question 3

What is the volume of a prism with a base area of 18 and height 7?

- A. 126
- B. 25
- C. 63
- D. 252

Question 4

What is the surface area of a cube with edge length 4?

- A. 64
- B. 48
- C. 96
- D. 16

Question 5

A prism has volume 120 and a base area of 20. What is its height?

- A. 100
- B. 140
- C. 6
- D. 2400

Question 6

A triangular prism has a triangular base of area 15 and a length of 8. What is the volume?

- A. 23
- B. 120
- C. 60
- D. 240

Question 7

Which unit goes with volume?

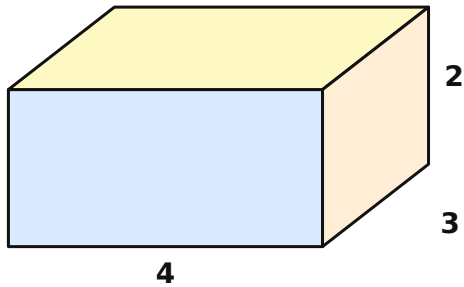
- A. cubic feet
- B. feet
- C. square feet
- D. feet per second

Question 8

An L-shape is a 9-by-7 rectangle with a 3-by-3 square removed. What is its area?

- A. 72
- B. 54
- C. 63
- D. 36

Question 9

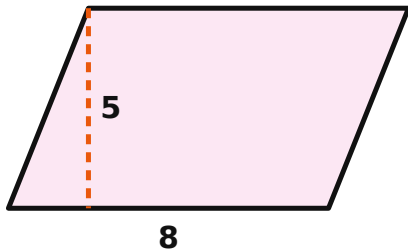


cover it?

A box is 4 by 3 by 2. How many square units of paper

- A. 24
- B. 52
- C. 26
- D. 48

Question 10



slanted side of 6. What is its area?

A parallelogram has base 8 and height 5 and a

- A. 40
- B. 30
- C. 48
- D. 26

Answers

1. **D** - $A = \frac{1}{2} \times 10 \times 6 = 30$. Forgetting the $1/2$ gives 60.
2. **D** - $\frac{1}{2}(4+10)(5) = 35$.
3. **A** - $V = Bh = 18 \times 7 = 126$.
4. **C** - $6 \times 4^2 = 96$. The value 64 is the volume.
5. **C** - $h = V \div B = 120 \div 20 = 6$.
6. **B** - $V = 15 \times 8 = 120$.
7. **A** - Volume is measured in cubic units.
8. **B** - $9 \times 7 - 3 \times 3 = 63 - 9 = 54$.
9. **B** - $2(12) + 2(8) + 2(6) = 24 + 16 + 12 = 52$.
10. **A** - Area uses the perpendicular height: $8 \times 5 = 40$, not the slanted side.

Remember

- Triangle: $A = \frac{1}{2}bh$. Trapezoid: $A = \frac{1}{2}(b_1 + b_2)h$.
- Composite polygon: add the areas of simple pieces or subtract a missing piece.
- Volume of a prism: $V = Bh$ (base area times height).
- Surface area of a prism: add the areas of all faces from the net.
- Area uses square units; volume uses cubic units.