



SAT Math Practice

Topic: Area and Volume of Geometric Shapes

Instructions

Solve the following problems related to area and volume of geometric shapes. Show all work clearly. For multiple-choice questions, circle the correct answer. For grid-in questions, fill in the grid with your answer.

Practice Problems

1. What is the area of a triangle with a base of 10 cm and a height of 8 cm?
 - (a) 30 cm^2
 - (b) 40 cm^2
 - (c) 50 cm^2
 - (d) 60 cm^2
2. The radius of a circle is 7 cm. What is the area of the circle?
 - (a) $49\pi \text{ cm}^2$
 - (b) $14\pi \text{ cm}^2$
 - (c) 49 cm^2
 - (d) 14 cm^2

3. A rectangle has a length of 12 cm and a width of 5 cm. What is the area of the rectangle?
- (a) 60 cm^2
 - (b) 70 cm^2
 - (c) 50 cm^2
 - (d) 80 cm^2
4. Find the volume of a cylinder with a radius of 3 cm and a height of 10 cm.
- (a) $90\pi \text{ cm}^3$
 - (b) $30\pi \text{ cm}^3$
 - (c) $60\pi \text{ cm}^3$
 - (d) $120\pi \text{ cm}^3$
5. A cylinder has a radius of 4 cm and a height of 6 cm. What is the volume of the cylinder?
- (a) $96\pi \text{ cm}^3$
 - (b) $48\pi \text{ cm}^3$
 - (c) $32\pi \text{ cm}^3$
 - (d) $16\pi \text{ cm}^3$
6. What is the area of a rectangle with a length of 15 cm and a width of 6 cm?
- (a) 90 cm^2
 - (b) 75 cm^2
 - (c) 80 cm^2
 - (d) 85 cm^2
7. The radius of a circle is 5 cm. What is the circumference of the circle?
- (a) $10\pi \text{ cm}$
 - (b) $15\pi \text{ cm}$
 - (c) $5\pi \text{ cm}$
 - (d) $25\pi \text{ cm}$
8. What is the area of a triangle with a base of 6 cm and a height of 9 cm?
- (a) 27 cm^2

- (b) 32 cm^2
- (c) 54 cm^2
- (d) 36 cm^2

9. A rectangular prism has dimensions 4 cm by 5 cm by 6 cm. What is the volume of the rectangular prism?

- (a) 100 cm^3
- (b) 120 cm^3
- (c) 110 cm^3
- (d) 130 cm^3

10. A cylinder has a height of 10 cm and a volume of $200\pi \text{ cm}^3$. What is the radius of the cylinder?

- (a) 5 cm
- (b) 6 cm
- (c) 7 cm
- (d) 8 cm

11. Find the area of a circle with a radius of 4 cm.

- (a) $16\pi \text{ cm}^2$
- (b) $8\pi \text{ cm}^2$
- (c) $4\pi \text{ cm}^2$
- (d) $10\pi \text{ cm}^2$

12. A right triangle has legs of length 3 cm and 4 cm. What is the area of the triangle?

- (a) 6 cm^2
- (b) 12 cm^2
- (c) 9 cm^2
- (d) 7 cm^2

13. A cylinder has a radius of 2 cm and a height of 5 cm. What is the volume of the cylinder?

- (a) $4\pi \text{ cm}^3$
- (b) $10\pi \text{ cm}^3$
- (c) $20\pi \text{ cm}^3$

(d) $50\pi \text{ cm}^3$

14. Find the area of a rectangle with a length of 8 cm and a width of 12 cm.
(Grid-in Question: Answer in the grid as a number.)
15. Find the volume of a cylinder with a radius of 6 cm and a height of 8 cm.
(Grid-in Question: Answer in the grid as a number.)
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Answer Key

1. (a) 30 cm^2
2. (a) $49\pi \text{ cm}^2$
3. (a) 60 cm^2
4. (a) $90\pi \text{ cm}^3$
5. (a) $48\pi \text{ cm}^3$
6. (a) 90 cm^2
7. (a) $10\pi \text{ cm}$
8. (a) 27 cm^2
9. (b) 120 cm^3
10. (a) 5 cm
11. (a) $16\pi \text{ cm}^2$
12. (a) 6 cm^2
13. (c) $20\pi \text{ cm}^3$
14. 96 cm^2 (Grid-in answer)
15. $96\pi \text{ cm}^3$ (Grid-in answer)

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