# Geometry: Real World Practice

Name: Grade: 8 Date:

*Practice geometry concepts with real-life scenarios. Find area, volume, angles, and use the Pythagorean theorem. Try the interactive mini-quizzes for instant feedback!*

### Quick Check

1) What is a right angle?

45 | 90 | 180

2) What do you call the space inside a shape?

perimeter | area | volume

3) Pythagorean theorem formula?

$c^2=a^2+b^2$ | $a^2=b^2+c^2$ | $a^2+b^2=c$

## Part 1 · Area & Perimeter AREA

1. Find the area of a rectangle with length 8 cm and width 5 cm.

2. Find the perimeter of a square with side 6 cm.

3. Find the area of a triangle with base 10 cm and height 4 cm.

4. Find the circumference of a circle with radius 7 cm (use $\pi \approx 3.14$).

5. Find the area of a parallelogram with base 9 cm and height 3 cm.

6. Find the area of a trapezoid with bases 6 cm, 10 cm and height 4 cm.

## Part 2 · Volume & Surface Area VOLUME

7. Find the volume of a rectangular prism with length 5 cm, width 3 cm, height 4 cm.

8. Find the volume of a cylinder with radius 3 cm and height 10 cm (use $\pi \approx 3.14$).

9. Find the surface area of a cube with side 6 cm.

10. Find the volume of a cone with radius 4 cm and height 9 cm (use $\pi \approx 3.14$).

11. Find the volume of a sphere with radius 5 cm (use $\pi \approx 3.14$).

12. Find the surface area of a rectangular prism with length 7 cm, width 2 cm, height 3 cm.

## Part 3 · Angles & Triangles ANGLES

13. What is the sum of angles in a triangle?

14. Find the missing angle: triangle with angles 50°, 60°, and ____?

15. What is the measure of each angle in a regular hexagon?

16. Find the supplement of a 65° angle.

17. Find the complement of a 38° angle.

18. What is the measure of a straight angle?

## Part 4 · Pythagorean Theorem PYTHAGOREAN

19. A right triangle has legs 6 cm and 8 cm. Find the hypotenuse.

20. A ladder is 12 ft from a wall and reaches 16 ft up. How long is the ladder?

21. A square has diagonal 10 cm. Find the side length (use Pythagorean theorem).

## Part 5 · Real World Practice REAL WORLD

**22. Painting a Wall**
You want to paint a wall that is 12 ft wide and 8 ft tall. What is the area to be painted?

**23. Filling a Fish Tank**
A fish tank is 60 cm long, 30 cm wide, and 40 cm tall. What is its volume in cubic cm?

**24. Playground Border**
You want to put a border around a rectangular playground 25 m by 18 m. What is the perimeter?

**25. Distance Across a Park**
A park is a rectangle 30 m by 40 m. What is the diagonal distance across the

park?

**26. Wrapping a Gift Box**
A gift box is 20 cm long, 10 cm wide, and 8 cm tall. What is its surface area?

## Answer Key

1. 40 $cm^2$
2. 24 cm
3. 20 $cm^2$
4. 43.96 cm
5. 27 $cm^2$
6. 32 $cm^2$
7. 60 $cm^3$
8. 282.6 $cm^3$
9. 216 $cm^2$
10. 150.72 $cm^3$
11. 523.33 $cm^3$
12. 94 $cm^2$
13. 180°
14. 70°
15. 120°
16. 115°
17. 52°
18. 180°
19. 10 cm
20. 20 ft
21. 7.07 cm
22. 96 $ft^2$
23. 72000 $cm^3$
24. 86 m
25. 50 m
26. 616 $cm^2$

Each question uses geometry in a real-life scenario. Encourage students to draw and label diagrams before solving.