Multiple choice questions - Area, volume, surface area, arcs and sectors

Year: Year 10 · 10

Question 1 The area of a triangle with base 10 and height 6 is

- ◯ **A.** 30
- ◯ **B.** 60
- ◯ **C.** 16
- ◯ **D.** 32

Question 2 The volume of a cylinder with $r = 2$ and $h = 5$ is

- ◯ **A.** 10π
- ◯ **B.** 20π
- ◯ **C.** 40π
- ◯ **D.** 100π

Question 3 The circumference of a circle with radius 5 is

- ◯ **A.** 5π
- ◯ **B.** 10π
- ◯ **C.** 25π
- ◯ **D.** 50π

Question 4 The area of a circle with diameter 10 is

- ◯ **A.** 10π
- ◯ **B.** 20π
- ◯ **C.** 25π
- ◯ **D.** 100π

Question 5 An arc of angle 90° in a circle of radius 4 has length

- ◯ **A.** 2π
- ◯ **B.** 4π
- ◯ **C.** 8π
- ◯ **D.** π

Question 6 A sector of angle 180° and radius 6 has area

- ◯ **A.** 6π
- ◯ **B.** 12π
- ◯ **C.** 18π

- **D.** 36π

Question 7 A prism has cross-section area 15 and length 4. Its volume is

- **A.** 19
- **B.** 60
- **C.** 30
- **D.** 11

Question 8 The surface area of a cube of side 3 is

- **A.** 27
- **B.** 54
- **C.** 18
- **D.** 81

Question 9 (Higher) The volume of a sphere with radius 3 is

- **A.** 12π
- **B.** 36π
- **C.** 27π
- **D.** 108π

Question 10 (Higher) The volume of a cone is

- **A.** $\pi r^2 h$
- **B.** $\frac{1}{3}\pi r^2 h$
- **C.** $\frac{1}{2}\pi r^2 h$
- **D.** $\frac{4}{3}\pi r^3$

Answer grid - Area, volume, surface area, arcs and sectors

Year: Year 10

Question	Answer	Explanation
1	**A**	$\frac{1}{2} \times 10 \times 6$.
2	**B**	$\pi \times 4 \times 5$.
3	**B**	$2\pi r$.
4	**C**	$r = 5$, $\pi r^2 = 25\pi$.
5	**A**	$\frac{1}{4} \times 8\pi$.
6	**C**	$\frac{1}{2} \times 36\pi$.
7	**B**	15×4.
8	**B**	6×9.
9	**B**	$\frac{4}{3}\pi \times 27$.
10	**B**	One third of the cylinder.