Year 9 Circles, Area and Volume – Foundation

ANSWER KEY HappyKids.fit

Answers and worked solutions · 10 questions

A. Circle, unit and volume skills

1. 153.86 cm^2

$A = \pi r^2$

$= 3.14 \times 7^2 = 3.14 \times 49 = 153.86\ cm^2$

2. 28.26 m^2

$r = 6 \div 2 = 3$ m

$A = \pi r^2 = 3.14 \times 9 = 28.26\ m^2$

3. 23π m

$C = 2\pi r = \pi d$

$= \pi \times 23 = 23\pi$ m

4. 75.36 mm

$C = 2\pi r$

$= 2 \times 3.14 \times 12 = 75.36$ mm

5. 120 000 milligrams

1 gram = 1000 milligrams

$120 \times 1000 = 120\,000$ milligrams

6. 360 megalitres

1 gigalitre = 1000 megalitres

$0.36 \times 1000 = 360$ megalitres

7. 5 cm

Volume = area of cross-section × length

Length = $130 \div 26 = 5$ cm

8. 5 planes of symmetry

A plane of symmetry cuts the solid into two halves that are mirror images

cuboid with two square ends that is not a cube: 5

9. r = 4 cm

$A = \pi r^2$, so $r^2 = 50.24 \div 3.14 = 16$

$r = \sqrt{16} = 4$ cm

10. 1884 cm^3

$V = \pi r^2 h$; cross-section $3.14 \times 10^2 = 314\ cm^2$

Volume: $314 \times 6 = 1884\ cm^3$