

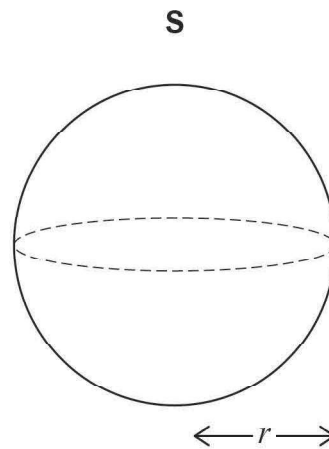
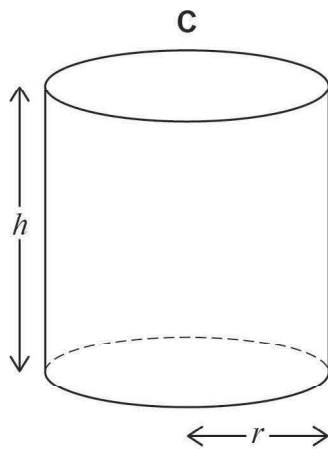
[5 marks]

$$R =$$

Turn over for the next question



- 21** A cylinder, C, and a sphere, S, each have radius r
C has height h



Volume of a sphere = $\frac{4}{3}\pi r^3$
where r is the radius

- 21 (a)** volume of C = volume of S

Work out the ratio $r : h$

You **must** show your working.

[3 marks]

Answer _____ : _____



21 (b) A different cylinder has radius $3r$ and height $2h$.

How many times bigger is the volume of this cylinder than the volume of C?

[2 marks]

Answer _____

22 Fatima is choosing a 4-digit code.

Each digit is a whole number from 0 to 9

She decides

all her digits will be odd numbers

no digits will be repeated.

How many different codes can she make?

[2 marks]

Answer _____



23 Quadrilateral $ABCD$ is reflected in edge BC .

How many of the vertices are invariant?

Circle your answer.

[1 mark]

1

2

0

4

24 Write $2x^2 - 12x + 7$ in the form $d(x + e)^2 + f$
where d , e and f are integers.

[3 marks]

Answer _____

END OF QUESTIONS

