

## Volume, surface area of prism, pyramid, cone, sphere – Answers

### Cones

(All answers given to 3 significant figures).

1)  $V = 314\text{cm}^3$   $l = 13\text{cm}$ , so  $A = 204\text{cm}^2$

2)  $h = 15\text{cm}$ , so  $V = 1010\text{cm}^3$   $A = 427\text{cm}^2$

3)  $r = 20\text{cm}$ , so  $V = 8800\text{cm}^3$   $A = 1820\text{cm}^2$

4)  $l = 7.96\text{cm}$ , so  $h = 6.88\text{cm}$ , so  $V = 115\text{cm}^3$

5)  $r = 4.89\text{cm}$ , so  $l = 9.37\text{cm}$ , so  $A = 144\text{cm}^2$

### Curved Surface area of a cone

1) (a)  $\pi \times 10 = 31.4\text{cm}$

(b) (i)  $OA = 12\text{cm}$  (ii)  $AB = 78.5\text{cm}$

(c)  $\theta = \frac{31.4}{2 \times \pi \times 12} \times 360 = 150^\circ$

(d)  $\text{Area} = \frac{150}{360} \times \pi \times 12^2 = 188\text{cm}^2$

2) (a)  $2\pi r$

(b) (i)  $OA = l$  (ii)  $AB = 2\pi r$

(c)  $\theta = \frac{2\pi r}{2\pi l} \times 360 = \frac{r}{l} \times 360$

(d)  $A = \frac{r}{l} \times \pi l^2 = \pi r l$