

Workout

Question 1:

- (a) 314.16cm^2
- (b) 2463.01cm^2
- (c) 113.10cm^2
- (d) 21.24cm^2
- (e) 2290.22cm^2
- (f) 2.54mm^2

Question 2:

- (a) $196\pi \text{ cm}^2$
- (b) $64\pi \text{ cm}^2$
- (c) $4.84\pi \text{ m}^2$

Question 3:

- (a) 12.6cm^2
- (b) 16300mm^2
- (c) 2.01m^2
- (d) 13.5 square inches

Question 4:

- (a) 1.99cm
- (b) 8.65cm
- (c) 39.09cm

Question 5:

- (a) 2cm
- (b) 5cm
- (c) 60cm

Apply

Question 1: 190.852cm^2

Question 2: 3cm radius – SA = 113.1cm^2 and 6cm radius – SA = 452.4cm^2 , therefore 4 times larger

Question 3: $r = \sqrt{A/4\pi}$

Question 4: Peter is incorrect

Approach 1: SA of Cube: $6x^2$ and SA sphere is $4\pi x^2$.

4π is approx 12.566, which is more than twice 6.

Approach 2: let $x = 10\text{cm}$ (for example)

Sphere 1256.6cm^2 and cube 600cm^2

So the surface area of the sphere is more than twice the cube's

Question 6:

$$4\pi x^2 = 2\pi x^2 + 2\pi xh$$

$$2\pi x^2 = 2\pi xh$$

$$x^2 = xh$$

$$x = h \text{ (since } x \neq 0\text{)}$$