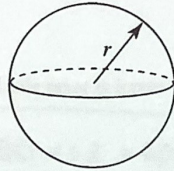


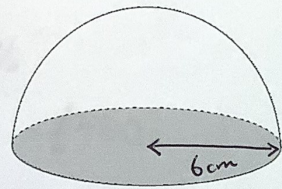
m4 = 42 days to go!

Volume of sphere = $\frac{4}{3}\pi r^3$

Surface area of sphere = $4\pi r^2$



7 The solid hemisphere has a diameter of 12 cm.



Mary says the total surface area is 226 cm^2 to the nearest cm^2

Martha says the total surface area is 339 cm^2 to the nearest cm^2

Explain with reasoning who is correct.

Base circle
 $A = \pi \times 6^2$
 $A = 36\pi$

Curved surface
 $SA = 4\pi r^2$ then \div by 2
 $SA = 4 \times \pi \times 6^2$ then \div by 2
 $SA = 144\pi$ then \div by 2
 $SA = 72\pi$

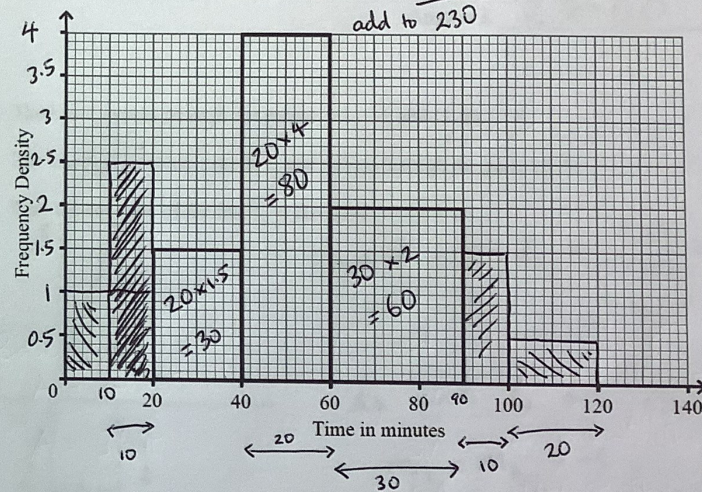
Curved + Base
 $72\pi + 36\pi$
 108π
 339.12

Answer Martha is correct [4]

20 The table and histogram show information about the length of time 230 pupils spent on social media on a week night.

No pupil spent more than 120 minutes on social media on a week night.

class width	Length of time in minutes, m	Frequency	fd.
10	$0 < m \leq 10$	10	1
10	$10 < m \leq 20$	25	2.5
20	$20 < m \leq 40$	30	1.5
20	$40 < m \leq 60$	80	4
30	$60 < m \leq 90$	60	2
10	$90 < m \leq 100$	15	1.5
20	$100 < m \leq 120$	10	



(a) Complete the table and the histogram. [6]

(b) Use the histogram to estimate the median time spent on social media.

Find 115th value

$10 + 25 + 30 = 65$

Must be in group

$50 = 4 \times x$
 $\frac{50}{4} = x$

Answer 52.5 minutes [2]