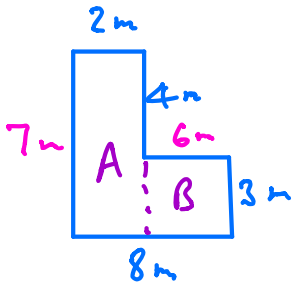
Area and Perimeter



Perimeter $= 2 + 4 + 6 + 3 + 8 + 7$

$= 30\,m$

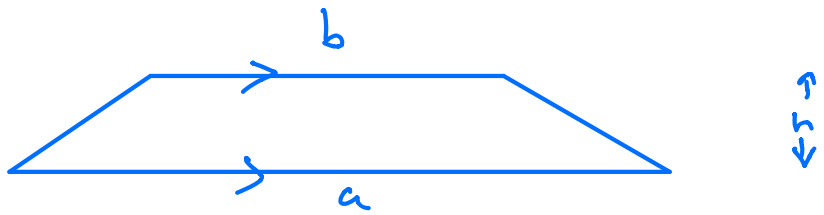
Area

$A = 7 \times 2 = 14$

$B = 6 \times 3 = 18$ +

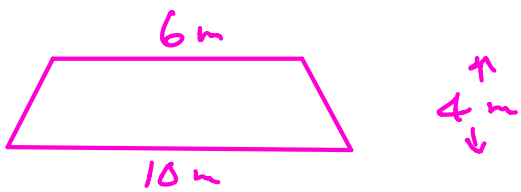
$32\,m^2$

Trapezium



$$\text{Area} = \frac{1}{2}(a+b)h$$

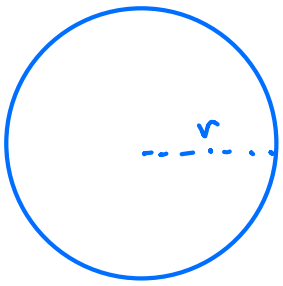
Ex



$\text{Area} = \frac{1}{2}(6+10) \times 4$

$= 32\,m^2$

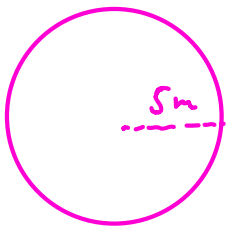
Circle



Circumference $= 2\pi r$

Area $= \pi r^2$

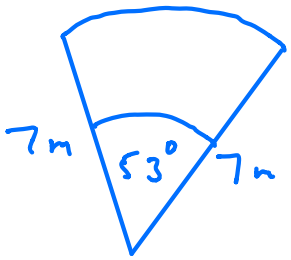
Ex



Circ $= 2 \times \pi \times 5 = 31.4\,m$

Area $= \pi \times 5^2 = 78.5\,m^2$

Sectors



Find perimeter and area

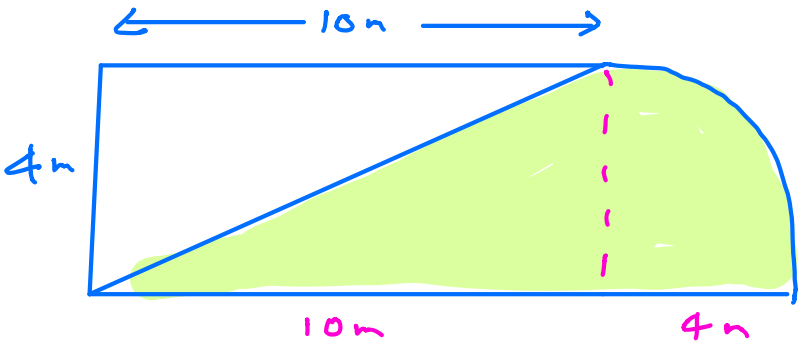
Perimeter = arc + radius + radius

$$= 2\pi r \times \frac{53}{360} + r + r$$

$$= 2 \times \pi \times 7 \times \frac{53}{360} + 7 + 7 = 20.5\text{ m}$$

$$\text{Area} = \pi r^2 \times \frac{53}{360} = \pi \times 7^2 \times \frac{53}{360}$$

$$= 22.7\text{ m}^2$$



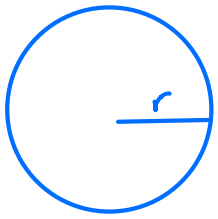
$\frac{1}{4}$ circle on end

Area = Area of $\triangle$ + Area of $\frac{1}{4}$ circle

$$= \frac{1}{2}\text{base} \times \text{height} + \frac{\pi r^2}{4}$$

$$= \frac{1}{2} \times 10 \times 4 + \frac{\pi \times 4^2}{4} = 32.6\text{ m}^2$$

Sphere

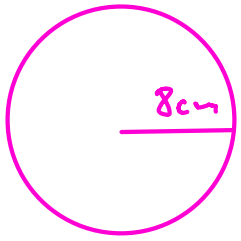


Formulae Given in Exam

$$\text{Vol} = \frac{4}{3}\pi r^3$$

$$\text{Surface Area} = 4\pi r^2$$

Ex



Find Vol and Surface Area

$$\text{Vol} = \frac{4}{3} \times \pi \times 8^3 = 2145 \text{ cm}^3$$

$$\text{Surface area} = 4 \times \pi \times 8^2 = 804 \text{ cm}^2$$

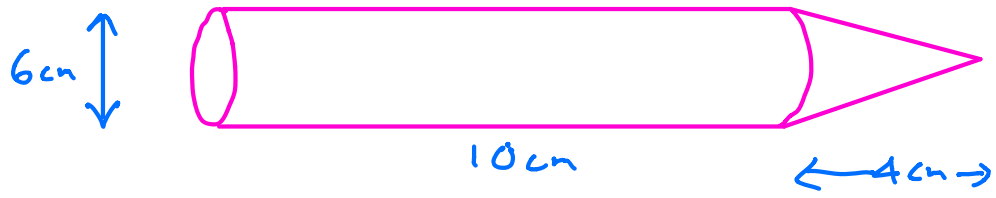
Cone

Given in Exam

$$\text{Vol} = \frac{1}{3}\pi r^2 h$$

$$\text{Curved surface area} = \pi r l$$

Ex



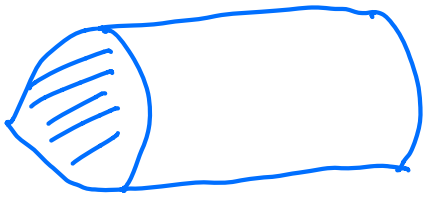
radius $r = 3$cm

$$\text{Vol Cylinder} = \pi r^2 h = \pi \times 3^2 \times 10$$

$$\text{Vol Cone} = \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi \times 3^2 \times 4$$

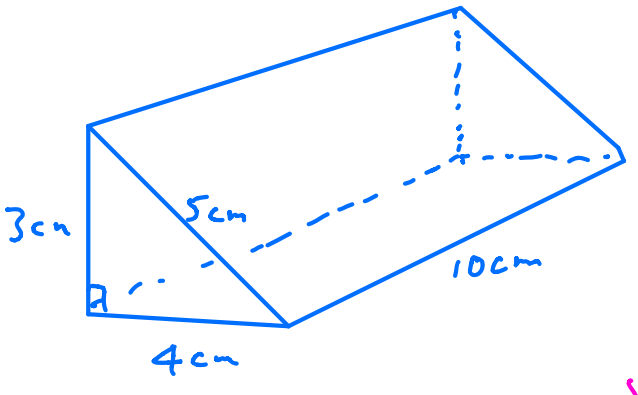
$$\text{Total Vol} = \text{Cylinder} + \text{Cone} = 320.4 \text{ cm}^3$$

Prism



Vol of prism

= Area of cross-section × Length



Find Vol of Prism

Area of cross-section

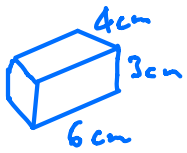
$= \frac{1}{2} \times 4 \times 3 = 6\,cm^2$

Vol $= 6 \times 10 = 60\,cm^3$

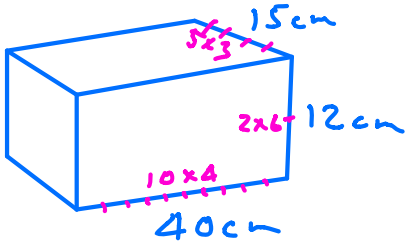
Find total surface area

△		6
△		6
▭	10×5	50
▭	10×3	30
▭	10×4	40
		132 cm^2

Packing



How many will fit in



Number $= 10 \times 5 \times 2 = 100$
