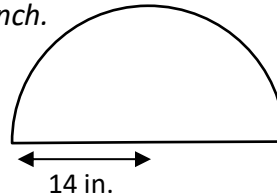




AREA OF A SEMI-CIRCLE PROBLEMS 2A

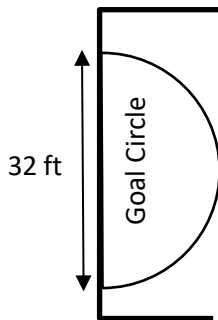
Working out

- 1) A semicircular window has a radius of 14 inches.
What is the area of the window?
Give your answer to the nearest square inch.



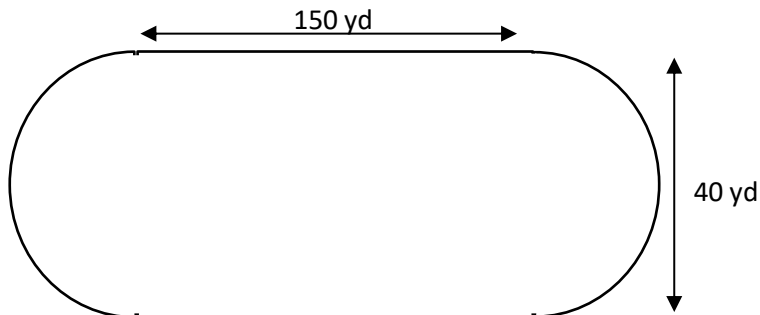
Area of the window is _____.

- 2) In netball, the goal circle is a semi-circle with a diameter of 32ft. What is the area of the goal circle.
Give your answer to 1 decimal place.



Area of the goal circle is _____.

- 3) A running track is made up of 2 semi-circles at either end and a rectangle in the middle (see diagram below).
What is the area of the track to the nearest yard?



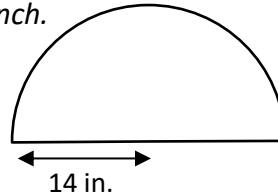
Area of the track is _____.



AREA OF A SEMI-CIRCLE PROBLEMS 2A ANSWERS

Working out

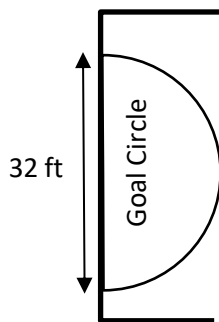
- 1) A semicircular window has a radius of 14 inches.
What is the area of the window?
Give your answer to the nearest square inch.



Area of a semi-circle is
 $(\pi r^2)/2 = (\pi \times 14^2)/2 = 98 \pi$
 $= 307.9 \text{ in}^2$

Area of the window is 308 square inches.

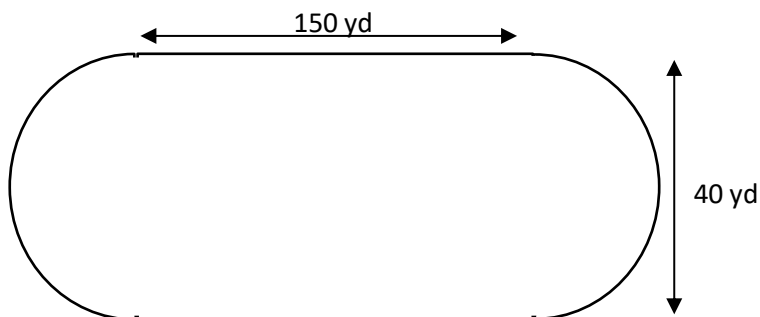
- 2) In netball, the goal circle is a semi-circle with a diameter of 32ft. What is the area of the goal circle.
Give your answer to 1 decimal place.



Radius of goal = $32/2 = 16\text{ft}$.
 Area of a semi-circle is
 $(\pi r^2)/2 = (\pi \times 16^2)/2 = 128 \pi$
 $\pi = 402.1 \text{ ft}^2$

Area of the goal circle is 402.1 square feet

- 3) A running track is made up of 2 semi-circles at either end and a rectangle in the middle (see diagram below).
What is the area of the track to the nearest yard?



Area of Running track =
 Area of rectangle + Area
 of 2 semi-circles.
 Area of rectangle is $150 \times 40 = 6000 \text{ yd}^2$
 If we put the two semi-circles together, we get a circle with radius 20 yd.
 Area of circle = $\pi r^2 = \pi \times 20^2 = 400 \pi = 1256.6 \text{ yd}^2$
 So Area of running track =
 $6000 + 1256.6 = 7256.6 \text{ yd}^2$

Area of the track is 7257 square yards.