

First Name: _____

Last Name: _____

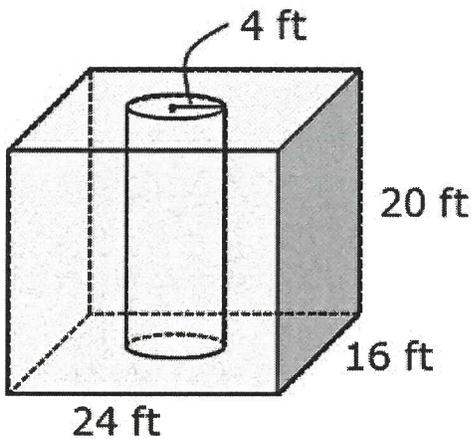
LO4 - SA - Surface Area and SA Unit Conversions

S.I. to S.I.		Exact?
1 km	1000 m	✓
1 m	100 cm	✓
1 cm	10 mm	✓

Imperial to Imperial		Exact?
1 mi.	1760 yd.	✓
1 yd.	3 ft.	✓
1 ft.	12 in.	✓

Imperial to S.I.		Exact?
1 mi.	1.609 km	x
1 yd.	0.9144 m	x
1 ft.	30.48 cm	✓
1 in.	2.54 cm	✓

Q1: A hole is drilled through a rectangular prism. Calculate the surface area, in square feet. (3 marks)



Cube Faces \Rightarrow

Top =	24×16	=	384
Bottom =		=	384
Front =	24×20	=	480
Back =		=	480
Right =	16×20	=	320
Left =		=	320
			<u>2368</u>

2368 ft^2

Cylinder \Rightarrow

Top =	$\pi(4)^2$	=	50.24
Bottom =		=	50.24
Side =	$2\pi r h$	=	$2(3.14)(4)(20) = 502.4$

Total = (CUBE) - 2(CIRCLE) + 1(CYLINDER SIDE)

=	2368	-	2(50.24)	+	1(502.4)
=	2368	-	100.48	+	502.4
=	<u>2769.92 ft²</u>				

Q2: Another figure has a surface area of 200 m^2 . What is the surface area in yards²?

(Record your answer in the Numerical Response boxes below)

2	3	9	
---	---	---	--

$$\frac{200 \text{ m}^2}{1} \times \frac{1 \text{ yd}}{0.9144 \text{ m}} \times \frac{1 \text{ yd}}{0.9144 \text{ m}} = \frac{200 \text{ yd}^2}{0.83612736} = 239.198 \text{ yd}^2 \approx 239 \text{ yd}^2$$

MARKING:

Beginning	0-1.5
Progressing	2-2.5
Competent	3-3.5
Exemplary	4