Curriculum Outcome

(N5) Determine the square root of positive rational numbers that are perfect squares.

(N6) Determine an approximate square root of positive rational numbers that are non-perfect squares.

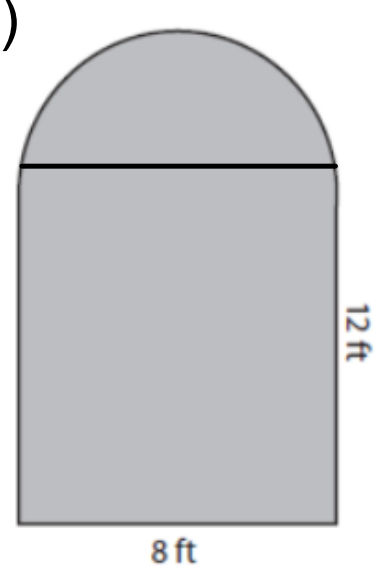
(SS2) Determine the surface area of composite 3-D objects to solve problems

(N4) **Explain and apply the order of operations, including exponents, with and without technology.**

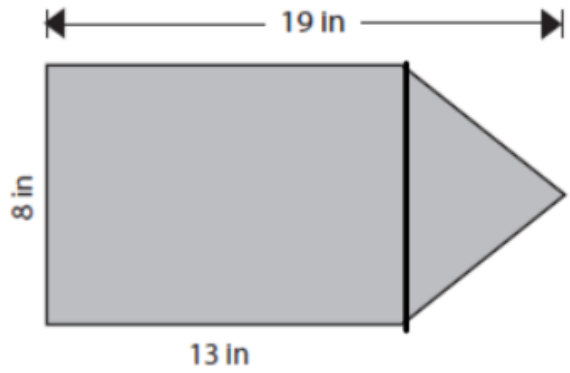
Warm Up

What is the surface area of each shape?

a)



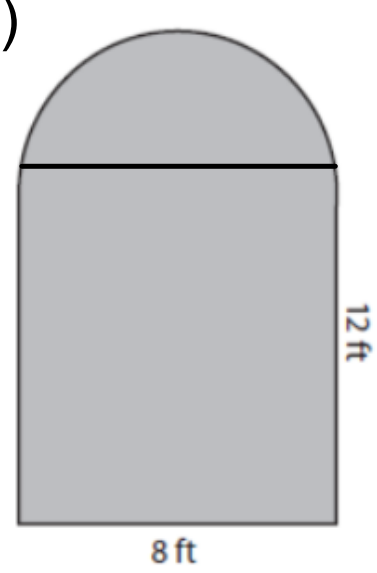
b)



Warm Up

What is the surface area of each shape?

a)



$A = b \times h$

$A = 8ft \times 12ft$

$A = 96\ ft$

$A = \pi r^2$

$A = 3.14\ (4ft)^2$

$A = 3.14\ (16ft^2)$

$A = 50.24\ ft^2$

$\div 2$

$A = 25.12\ ft^2$

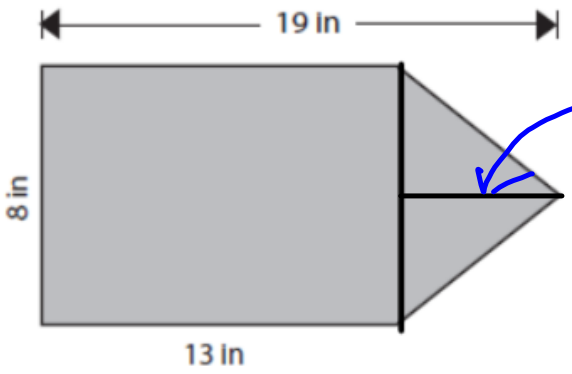
$T_A = 96ft^2 + 25.12\ ft^2$

$= 121.12\ ft^2$

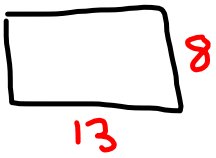
Warm Up

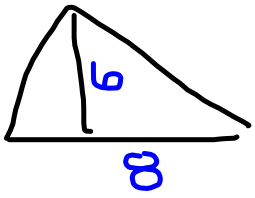
What is the surface area of each shape?

b)



19 − 13 = 6





$A = b \times h$

$A = 8 \times 13$

$A = 104 in^2$

$A = \frac{b \times h}{2}$

$A = \frac{8 \times 6}{2}$

$A = 24 in^2$

$TA = 104 in^2 + 24 in^2$

$= 128 in^2$

Surface Area

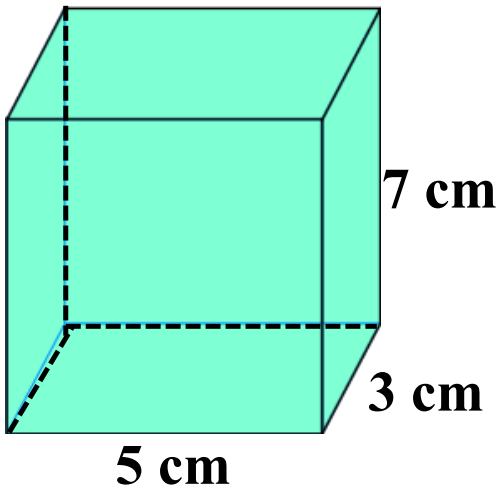
Copy Down

Surface area is the total area of all of the faces of the object.

Steps needed to find Surface area are:

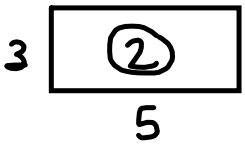
1. **Draw all of the faces with dimensions displayed on them.**
2. **Find the area of each face.**
3. **Then add up the areas of all of the faces.**

Determine the surfaces area of each shape?



3, 5, 7

1. Draw all of the faces with dimensions displayed on them.
2. Find the area of each face.

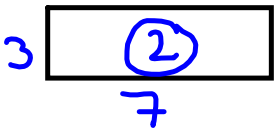


$A = b \times h$

$A = 3 \times 5$

$A = 15\ cm^2$

$2A = 30\ cm^2$



$A = b \times h$

$A = 3 \times 7$

$A = 21$

$2A = 42\ cm^2$

$A = b \times h$

$A = 5 \times 7$

$A = 35\ cm^2$

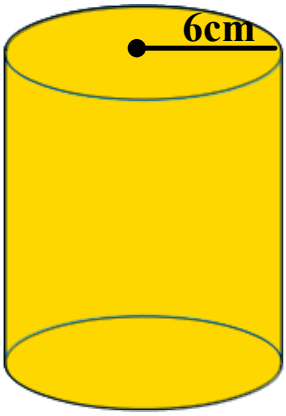
$2A = 70\ cm^2$

3. Then add up the areas of all of the faces.

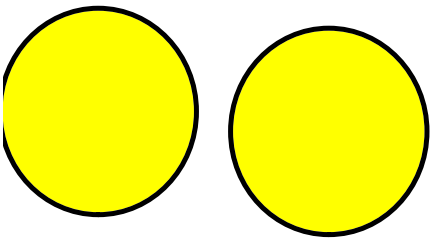
$TSA = 30 + 42 + 70$

$= 142\ cm^2$

Determine the surfaces area of each shape?



$C = \pi d$ or $2\pi r$



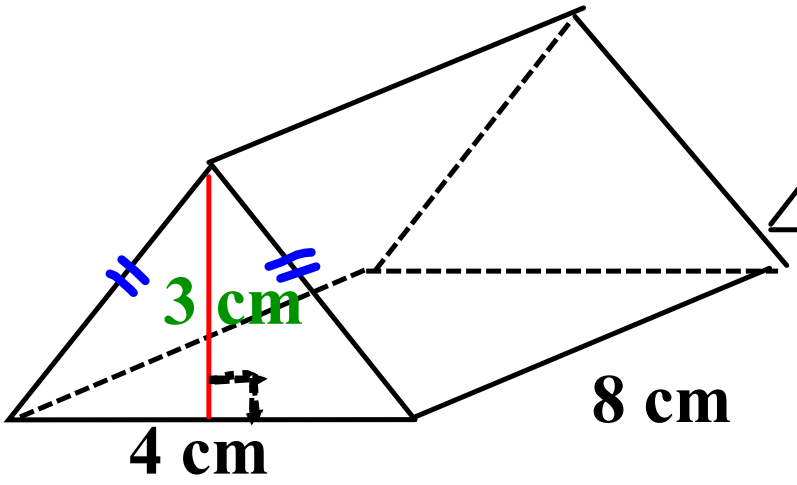
$2A = 2\pi r^2$

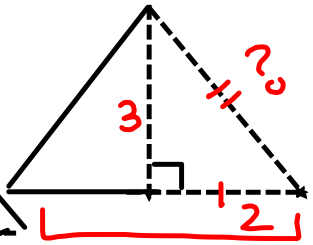
$SA_{cylinder} = 2\pi r^2 + \underbrace{2\pi r h}_{b \times h}$

$= 2(3.14)(6)^2 + 2(3.14)(6)(8)$

$= \underbrace{2(3.14)(36)}_{226.08} + \underbrace{2(3.14)(6)(8)}_{301.44}$

$= 527.52\ cm^2$





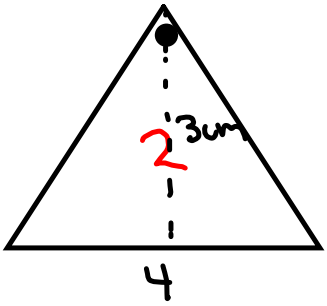
$c^2 = a^2 + b^2$

$c^2 = 3^2 + 2^2$

$c^2 = 9 + 4$

$c^2 = 13$

$c = 3.6$

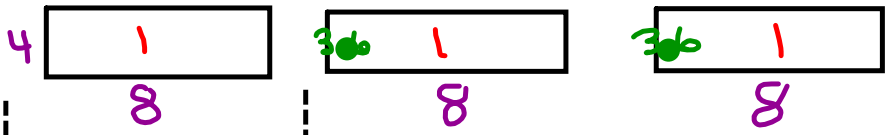


$A = \frac{b \times h}{2}$

$A = \frac{4 \times 3}{2}$

$A = 6\ cm^2$

$2A = 12\ cm^2$



$A = b \times h$

$A = 4 \times 8$

$A = 32\ cm^2$

$A = b \times h$

$A = 3.6 \times 8$

$A = 28.8$

$2A = 57.6\ cm^2$

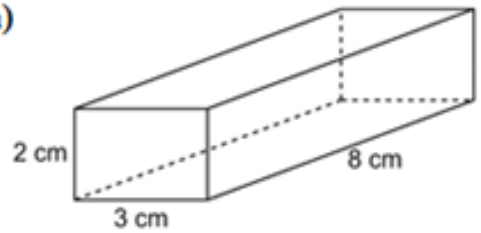
$TSA = 12 + 32 + 57.6$

$= 101.6\ cm^2$

Check

1. Calculate the surface area of each object

a)



b)