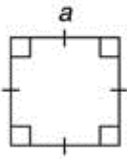

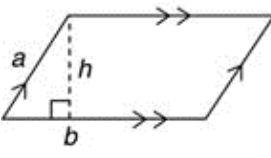
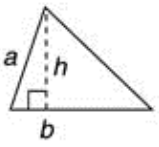
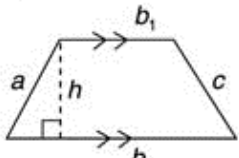
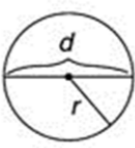


Figure	Name	Perimeter/ Circumference	Area
 <p>(a)</p>	square	$P = a+a+a+a$ or $P = 4a$	$A = (\text{Side})^2$
 <p>(b)</p>	rectangle	$P = l+w+l+w$ $P = 2l+2w$	$A = \text{Length} \times \text{Width}$
 <p>(c)</p>	parallelogram	$P = a+b+a+b$ $P = 2a+2b$	$A = \text{Base} \times \text{Height}$
 <p>(d)</p>	triangle	$P = a+b+c$	$A = \frac{\text{Base} \times \text{Height}}{2}$
 <p>(e)</p>	trapezoid	$P = a + b_1 + c + b_2$	$A = \frac{(b_1+b_2)}{2} \times \text{Height}$
 <p>(g)</p>	circle	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$

Answers to Grade 7 & 8 Review (ID: 1)

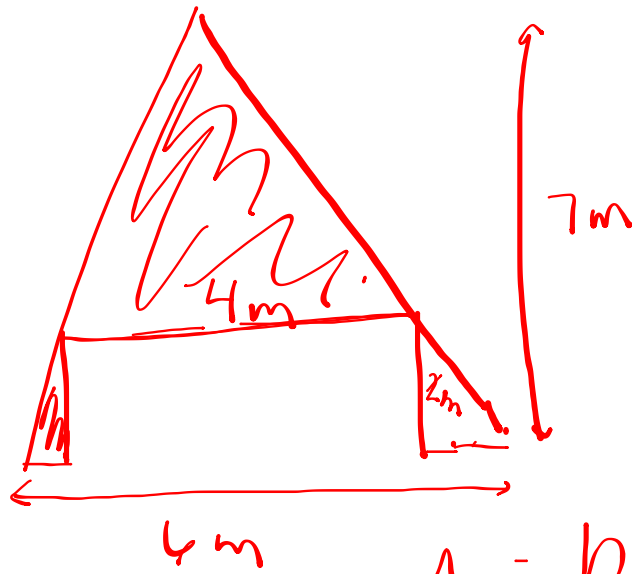
- | | | | |
|--------------------------|---------------------------|-------------------------|--------------------------|
| 1) 9 ft ² | 2) 32.4 cm ² | 3) 8.06 ft ² | 4) 106.7 mi ² |
| 5) 54.6 km ² | 6) 127.6 mi ² | 7) 45.5 m ² | 8) 3.8 yd ² |
| 9) 153.9 km ² | 10) 145.3 km ² | | |

Get out your books.

Get out your homework from last week.

Have your formula sheet on hand!

2)



$$\begin{aligned}
 A_{\square} &= b \times h \\
 &= 4 \times 2 \\
 &= 8 \text{ m}^2
 \end{aligned}$$

$$21 - 8 = 13 \text{ m}^2$$

$$\begin{aligned}
 A_{\Delta} &= \frac{b \times h}{2} \\
 &= \frac{4 \times 7}{2} \\
 &= \frac{28}{2} = 14 \text{ m}^2
 \end{aligned}$$

4.



$$\begin{aligned}
 A_{\square} &= b \times h \\
 &= 6 \times 13 \\
 &= 78 \text{ yd}^2
 \end{aligned}$$

$$\begin{aligned}
 A_{\circ} &= \pi r^2 \\
 &= \pi (3)^2 \\
 &= 9 \times \pi \\
 &= 28.2 \text{ yd}^2 \\
 &\quad \div 2 \\
 &\quad 14.1 \text{ yd}^2
 \end{aligned}$$

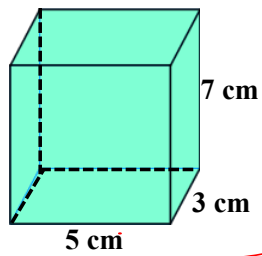
$$78 - 14.1 = 63.9 \text{ yd}^2$$

Surface Area

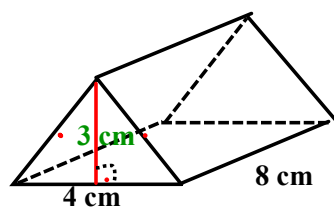
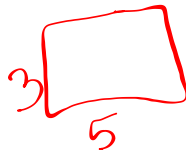
What do I mean when I say surface?

faces

How many surfaces does each shape have?

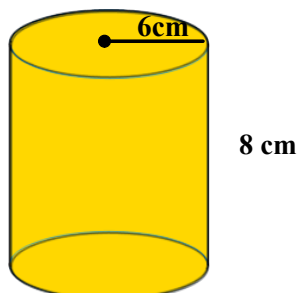


6 faces



5 faces

2 Δ 3 ▭



2 ○ 1 ▭

3 faces

Surface Area

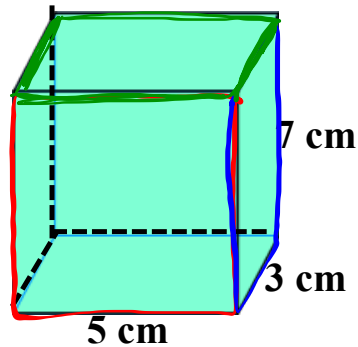
Copy Down

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 surface area of each shape?

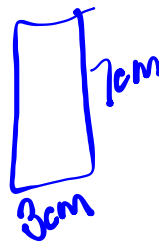


1. Draw all of the faces with dimensions displayed on them.

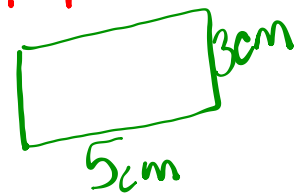
Front/Back



Left/Right



Top/Bottom



2. Find the area of each face.

$$\begin{aligned} A &= b \times h \\ &= 5 \times 7 \\ &= 35 \text{ cm}^2 \end{aligned}$$

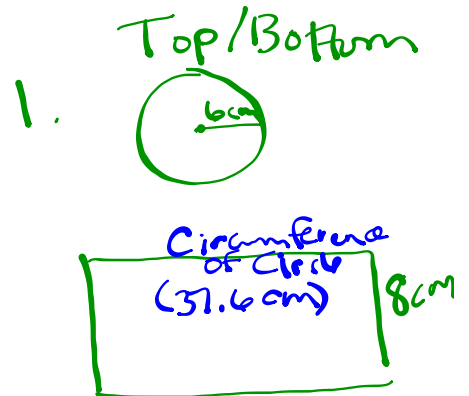
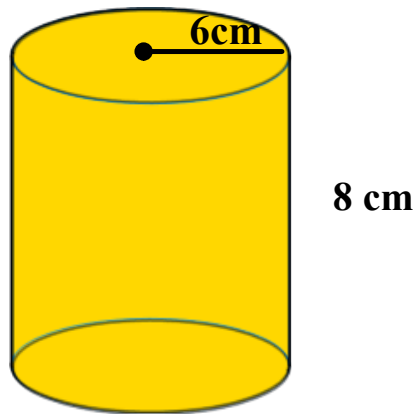
$$\begin{aligned} A &= b \times h \\ &= 3 \times 7 \\ &= 21 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} A &= b \times h \\ &= 5 \times 3 \\ &= 15 \text{ cm}^2 \end{aligned}$$

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

$$\begin{aligned} &35 \text{ cm}^2 + 35 \text{ cm}^2 + 21 \text{ cm}^2 + 21 \text{ cm}^2 + 15 \text{ cm}^2 + 15 \text{ cm}^2 \\ &= 142 \text{ cm}^2 \end{aligned}$$

Determine the surface area of each shape?

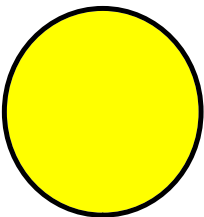


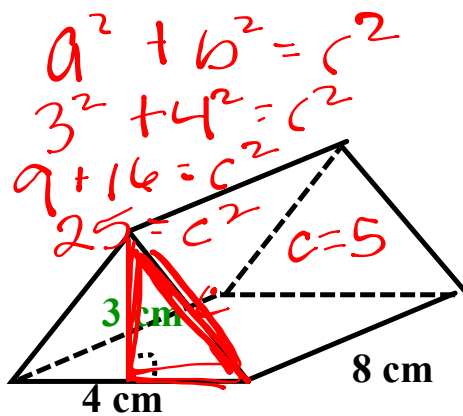
$$\begin{aligned} C &= \pi d \\ &= \pi \times 12 \\ &= 37.6 \text{ cm} \end{aligned}$$

$$\begin{aligned} 2. \quad A_0 &= \pi r^2 \\ &= \pi \times 6^2 \\ &= 36 \times \pi \\ &= 113.1 \text{ cm}^2 \end{aligned}$$

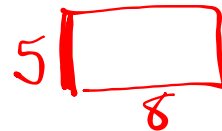
$$\begin{aligned} A_{\text{rectangle}} &= b \times h \\ &= 37.6 \times 8 \\ &= 300.8 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} 3. \quad &113.1 + 113.1 + 300.8 \\ &= 527 \text{ cm}^2 \end{aligned}$$





1. Draw faces
 Front/Back Left/Right



Bottom



2. Find Areas

$$A_{\Delta} = \frac{b \times h}{2}$$

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

$$= 6 \text{ cm}^2$$

$$A_{\square} = b \times h$$

$$= 8 \times 5$$

$$= 40 \text{ cm}^2$$

$$A_{\square} = b \times h$$

$$= 4 \times 8$$

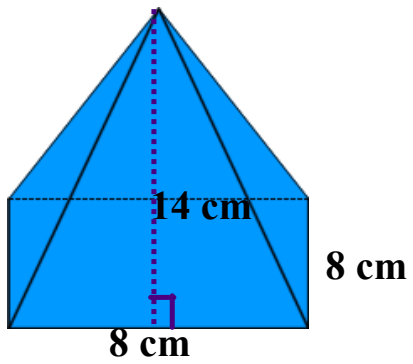
$$= 32 \text{ cm}^2$$

3. Add

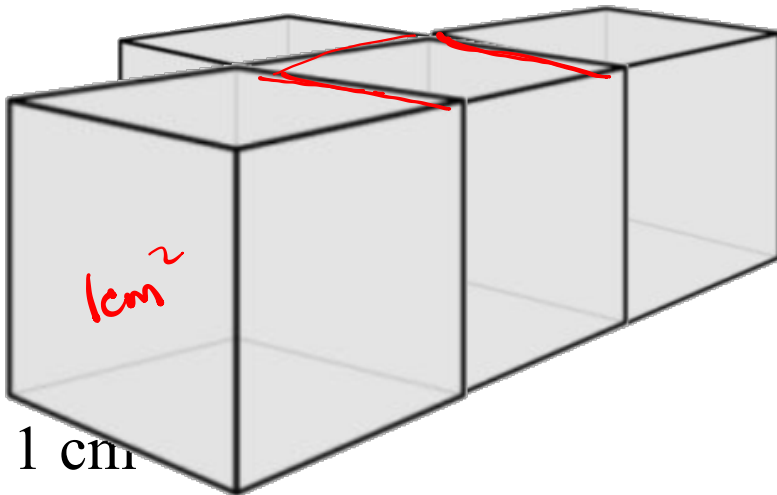
$$6 + 6 + 32 + 40 + 40$$

$$= 124 \text{ cm}^2$$

What is the surface area of the following shape?



Find the Surface Area of the Connected Cubes



Method 1 (Think Individually about each shape)

4 cubes connected
* each have 6 faces

FIND THE AREA OF EACH FACE

$$6 \text{ cm}^2$$

$$6 \times 4 = 24 \text{ cm}^2$$

$$- 4 \text{ cm}^2$$

$$= 16 \text{ cm}^2$$

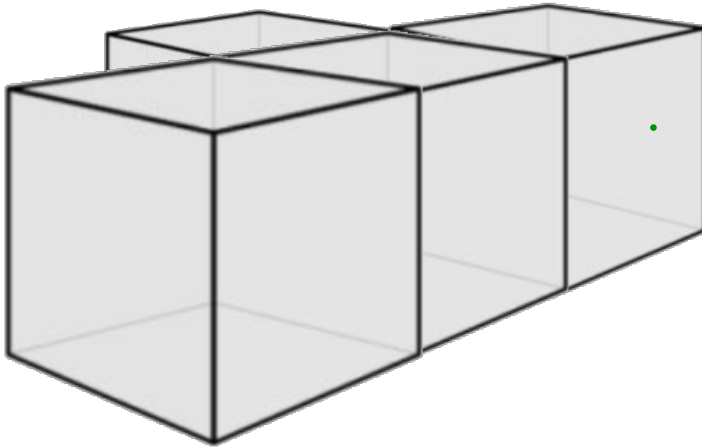
BUT

WHAT HAPPENS WHEN YOU JOIN FACES?

Do you have to count where they join in "surface area"? NO

With every connected cube 2 faces disappear

Method 2: (Visualize the top/bottom, front/back, side/side)



How many faces do we see
on the top?

How many faces do we see on
the bottom?

How many faces do we see
on the front?

How many faces do we see
on the back?

How many faces do we see on
the left side?

How many faces do we see on
the right side?



page 30 & 31

questions
4 to 7