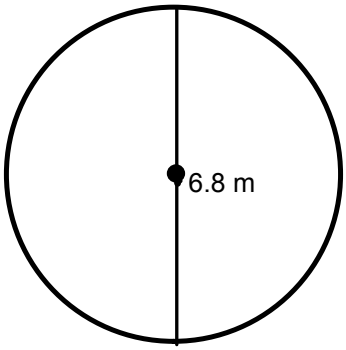
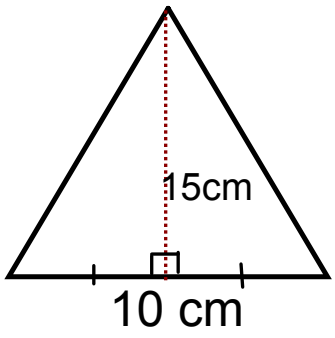
Grade 9 Warm Up

For each of the following Calculate the
i) Area
ii) perimeter/circumference





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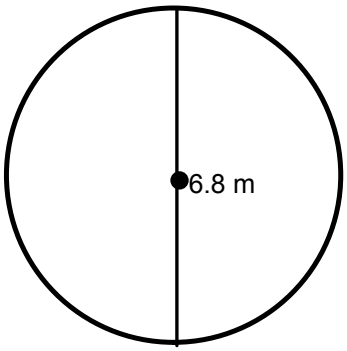


$A = \pi r^2$

$A = \pi (3.4)^2$

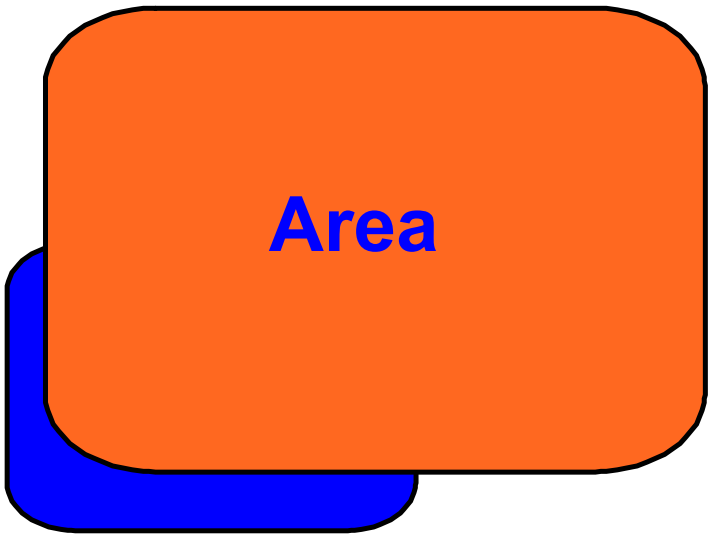
$A = \pi (11.56)$

$A = 36.3\ m^2$

$C = \pi d$

$C = \pi (6.8)$

$C = 21.4\ m$



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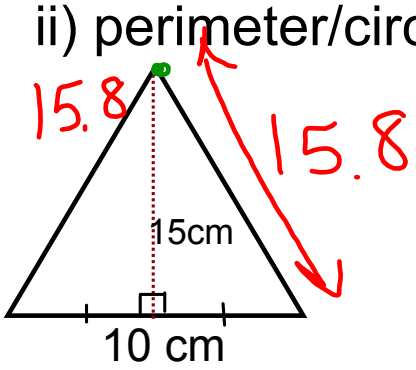
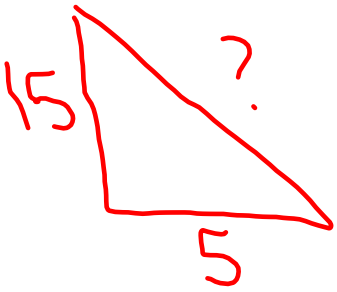


$A = \frac{b \times h}{2}$

$= \frac{10 \times 15}{2}$

$= \frac{150}{2}$

$= 75 cm^2$



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

$c^2 = 5^2 + 15^2$

$c^2 = 25 + 225$

$c^2 = 250$

$c = \sqrt{250}$

$c = 15.8 cm$

P=s+s+s

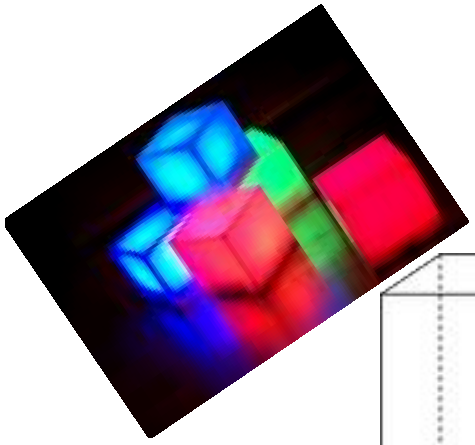
P = 10+15.8+15.8

P= 41.6 cm

Perimeter

Intro to High School Math

Section 1.3:
Surface Area of Objects Made from Right Rectangular Prisms



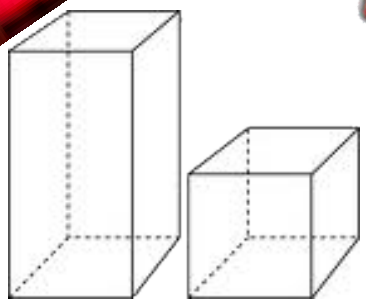
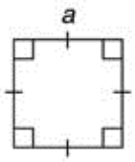
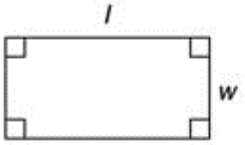
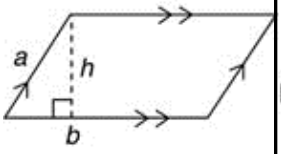
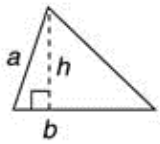
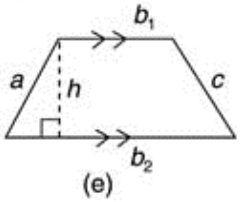
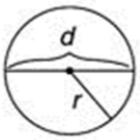


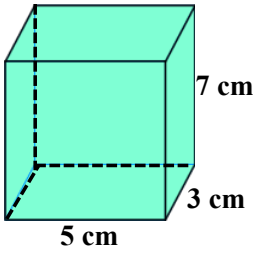
Figure	Name	Perimeter/ Circumference	Area
 (a)	square	P= a+a+a+a or P= 4a	A= $(Side)^2$
 (b)	rectangle	P= l+w+l+w P= 2l+2w	A= Length x Width
 (c)	parallelogram	P= a+b+a+b P= 2a+2b	A= Base x Height
 (d)	triangle	P= a+b+c	A= $\frac{\text{Base x Height}}{2}$
 (e)	trapezoid	P= a+ b_1+c+b_2	A= $\frac{(b_1+b_2)}{2}$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

Surface Area

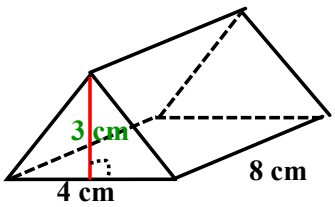
What do I mean when I say surface?

ans: Surface is the face of an object

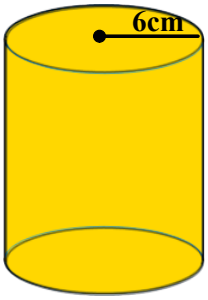
How many surfaces does each shape have?



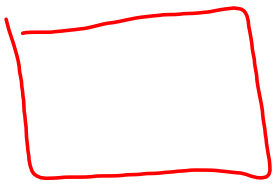
6 faces



5 faces



3 faces



Surface Area

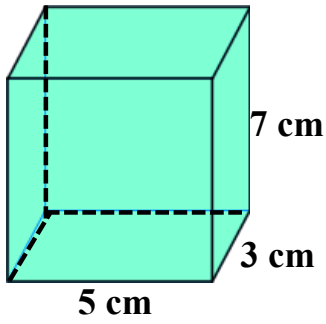
Copy Down

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

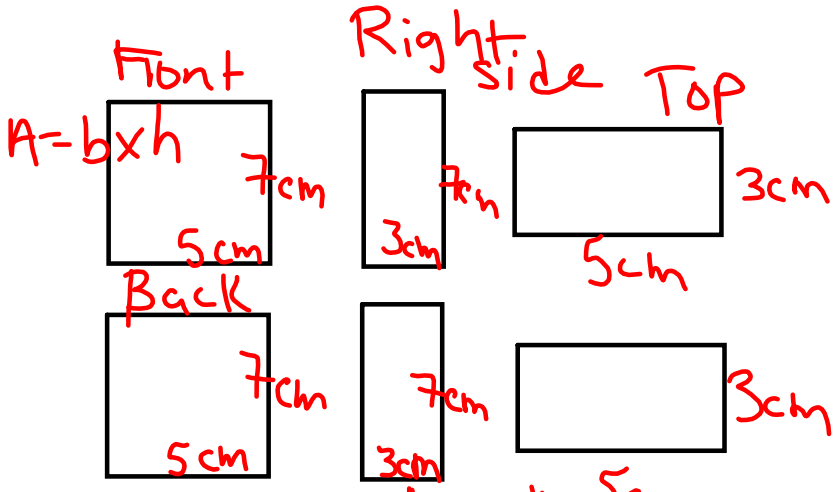
Steps needed to find Surface area are:

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 surfaces area of each shape?



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



2. Find the area of each face.

Front = $5cm \times 7cm = 35cm^2$ Bottom

Back = $5cm \times 7cm = 35cm^2$

Right side = $3cm \times 7cm = 21cm^2$

Left side = $3cm \times 7cm = 21cm^2$

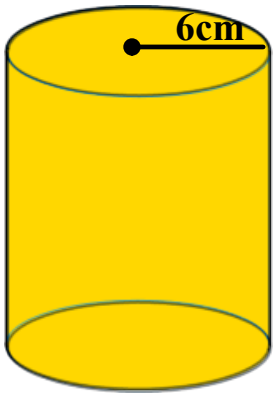
Top = $5cm \times 3cm = 15cm^2$

Bottom = $5cm \times 3cm = 15cm^2$

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

$142\ cm^2$

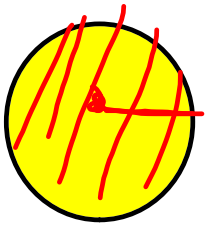
Determine the surfaces area of each shape?



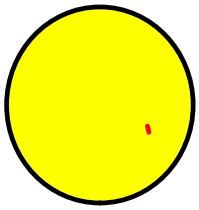
$2(3.14)(6)$

$C = 2\pi r$

37.68cm



$r = 6\text{ cm}$



$r = 6\text{ cm}$

$A = b \times h$

$8\text{cm} \times 37.68\text{cm}$

$A = 301.44\text{cm}^2$

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

$\text{Top } (3.14)(6)^2$

113.04cm^2

$\text{Bottom} = 113.04\text{cm}^2$

$SA = 527.5\text{cm}^2$

$SA_{\text{cylinder}} = 2\pi r^2 + 2\pi rh$