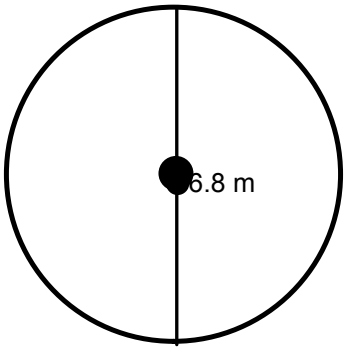
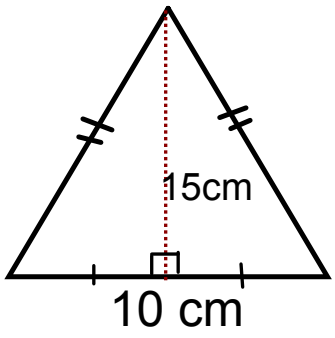
`

Grade 9 Warm Up

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





Grade 9 Warm Up

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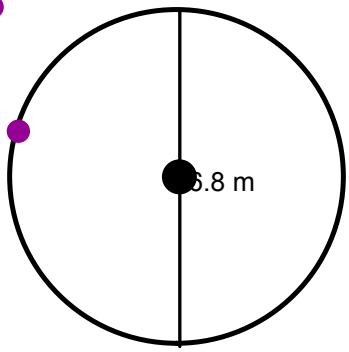


$A = \pi r^2$

$A = \pi (3.4)^2$

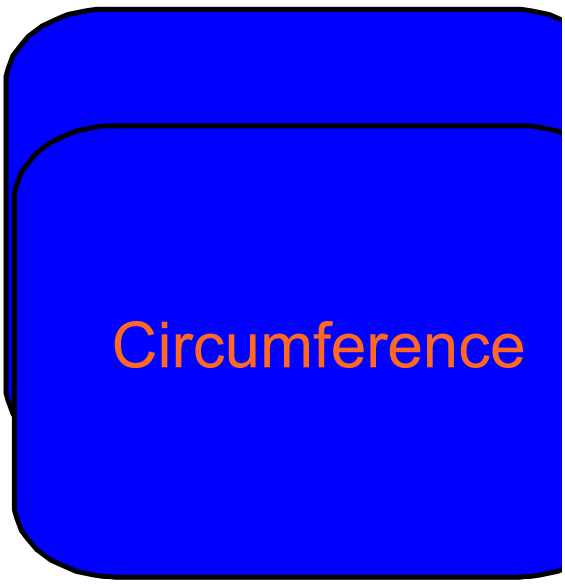
$A = \pi (11.56)$

$A = 36.3\ m^2$

$C = \pi d$

$C = \pi (6.8)$

$C = 21.4\ m$



Grade 9 Warm Up

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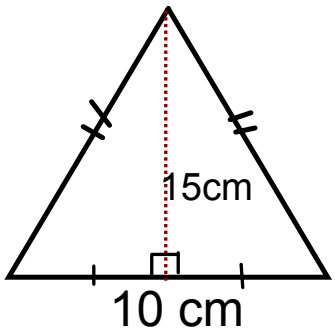
ii) perimeter/circumference

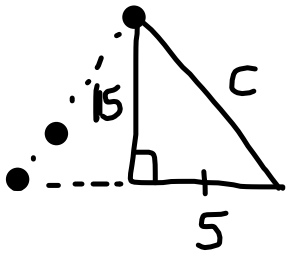


$$A = \frac{b \times h}{2}$$

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

$$= \frac{150}{2}$$

$$= 75 cm^2$$



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

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

$$c^2 = 25 + 225$$

$$c^2 = 250$$

$$c = \sqrt{250}$$

$$c = 15.8 cm$$

P=s+s+s

P = 10+15.8+15.8

P= 41.6 cm

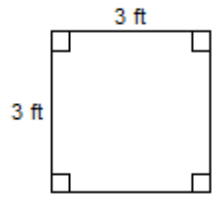
Math 9 Name_____

Grade 7 & 8 Review

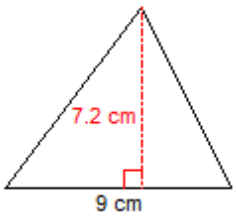
Date_____

Find the area of each.

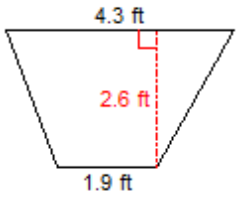
1)



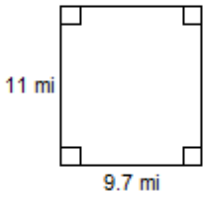
2)



3)

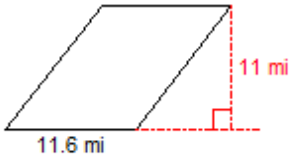


4)

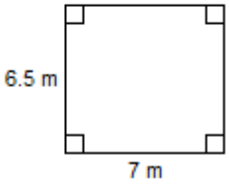


5)

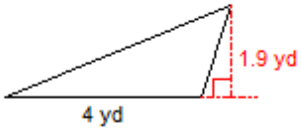
6)



7)

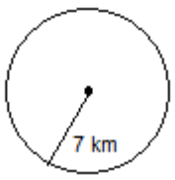


8)

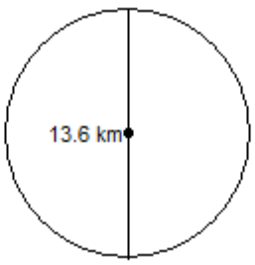


Find the area of each. Round your answer to the nearest tenth.

9)



10)



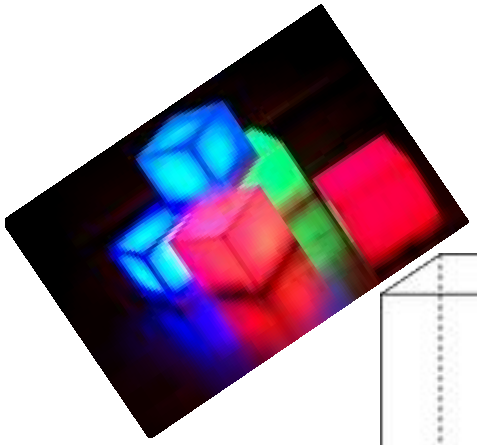
Answers to Grade 7

1) $9\ ft^2$
2) $32.4\ cm^2$
5) $54.6\ km^2$
6) $127.6\ mi^2$
9) $153.9\ km^2$
10) $145.3\ km^2$

3) $8.06\ ft^2$
4) $106.7\ mi^2$
7) $45.5\ m^2$
8) $3.8\ yd^2$

Intro to High School Math

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



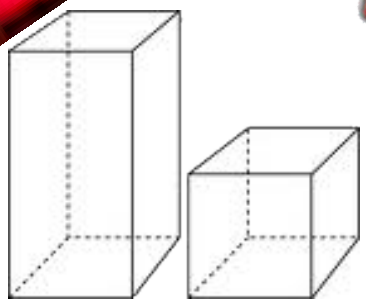
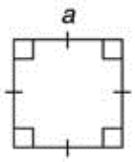
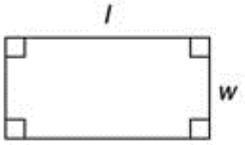
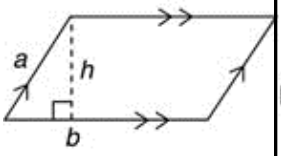
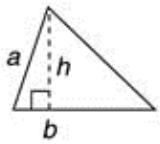
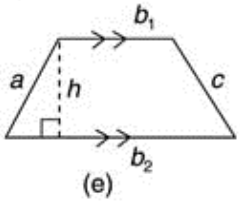
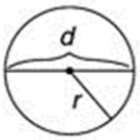


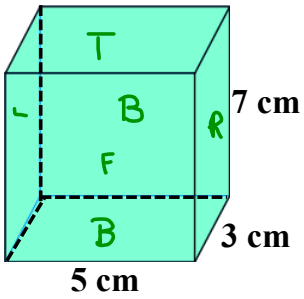
Figure	Name	Perimeter/ Circumference	Area
 (a)	square	P= a+a+a+a or P= 4a	A= $(Side)^2$
 (b)	rectangle	P= l+w+l+w P= 2l+2w	A= Length x Width
 (c)	parallelogram	P= a+b+a+b P= 2a+2b	A= Base x Height
 (d)	triangle	P= a+b+c	A= $\frac{\text{Base x Height}}{2}$
 (e)	trapezoid	P= a+ b_1+c+b_2	A= $\frac{(b_1+b_2)}{2}$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

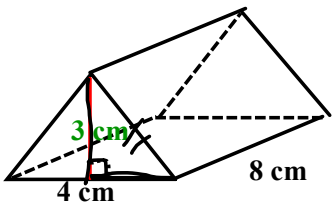


6 faces

Top/Bottom L/R F/B

$A = b \times h$

5, 3, 7



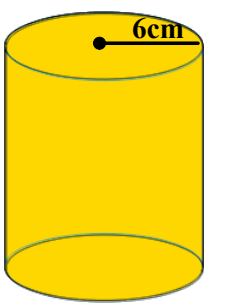
5 faces

2 triangles

3, 4

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

$A_\square = b \times h$



$A = \pi r^2$

$A = b \times h$

Surface Area

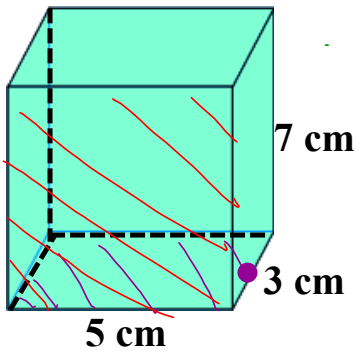
Copy Down

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?

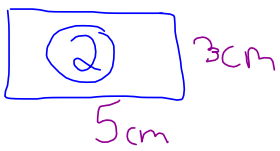


6 faces

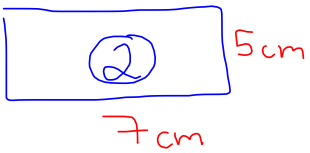
5, 3, 7

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

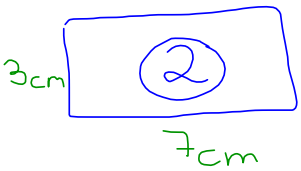
T/B



F/B



L/R



2. Find the area of each face.

$A = b \times h$

$A = 5 \times 3$

$A = 15\ cm^2$

$2A = 30\ cm^2$

$A = b \times h$

$A = 7 \times 5$

$A = 35\ cm^2$

$2A = 70\ cm^2$

$A = b \times h$

$A = 7 \times 3$

$A = 21\ cm^2$

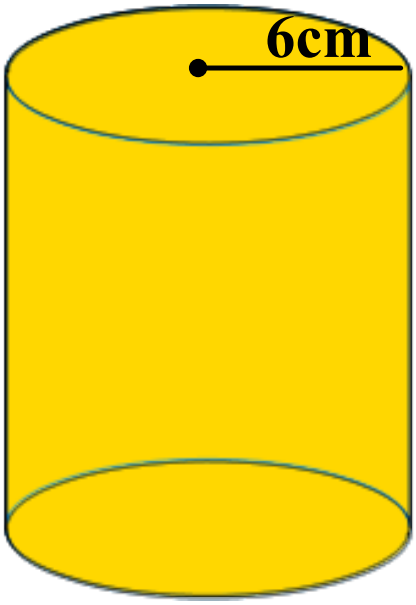
$2A = 42\ cm^2$

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

$TSA = 30 + 70 + 42$

$= 142\ cm^2$

Determine the surfaces area of each shape?



8 cm

T B $A = b \times h$ h

$2\pi r$

$2(\pi r^2) + (2\pi r)h$

$S_A = 2\pi r^2 + 2\pi r h$

$S_A = 2\pi (6cm)^2 + 2\pi (6cm)(8cm)$

$S_A = 2\pi (36 cm^2) + 2\pi (6cm)(8cm)$

$S_A = 226.08 cm^2 + 301.44 cm^2$

$S_A = 527.52 cm^2$

Homework

Master 1.22b

Activating Prior Knowledge

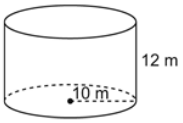
Surface Areas of Right Prisms and Right Cylinders **Quick Review**

The surface area of a right rectangular prism is:
2 × area of top face + 2 × area of front face × 2 × area of side face

The surface area of a right triangular prism is:
Sum of the areas of the rectangular faces + 2 × area of triangular base

The surface area of a right cylinder is:
2 × area of circular base + circumference of base × height of cylinder

Example
Determine the surface area of this cylinder to the nearest tenth of a square metre.

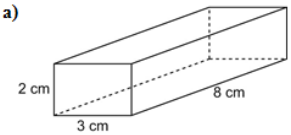


Solution
The area of the circular base is: $\pi (10)^2$
The circumference of the base is: $2\pi (10)$
The height is: 12
The surface area is: $2 \times \pi (10)^2 + 2 \times \pi (10) \times 12 \doteq 1382.30$
The surface area of the cylinder is approximately 1382.3 m^2.

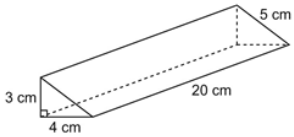
Check

1. Calculate the surface area of each object.

a)



b)



2. A cylinder has base radius 12 cm and height 15 cm. Determine the surface area of the cylinder to the nearest tenth of a square metre.