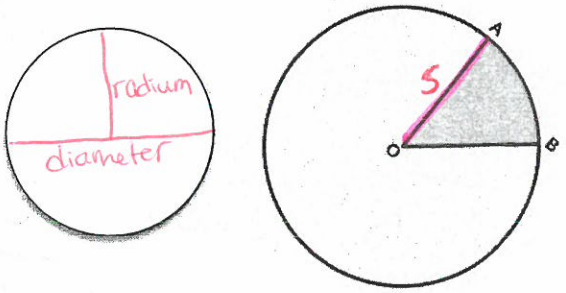
Answer Key

Name: _____
Date: _____

Geometric Figures
Cones 01

1. Label the following in the diagram below.



- Radius
- Diameter
- Circumference → the "perimeter" of the disk
- Arc = $\overset{\frown}{AB}$
- Sector = S

- What is π?
  a numerical value of 3.141592654...

- What is the formula for the circumference of a circle, given the diameter?

$C = 2\pi\frac{1}{2}D$ or $2\pi r$
(with diameter) (with radius)

- What is the formula for the area of a circle, given the radius?

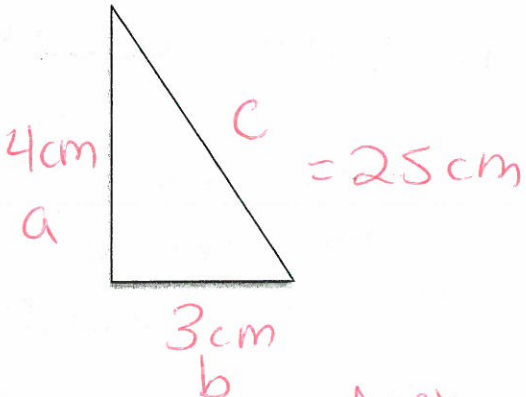
$A = \pi r^2$

2. What is Pythagoras' theorem of right triangles?

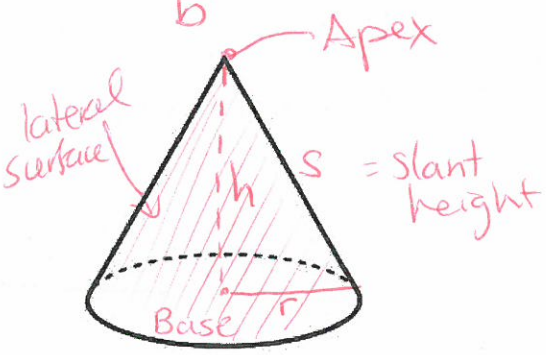
$a^2 + b^2 = c^2$

$\sqrt{4^2 + 3^2} = \sqrt{c^2}$

$25 = c$



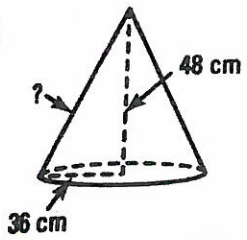
3. ***Knowing the parts of a cone (a right circular cone)***
Label the terms underlined below on the diagram at right.



a) The disc at the bottom is called the ***base***.
b) The curved surface is referred to as the ***lateral surface***
c) The ***apex*** is the topmost point opposite the base.
d) The cone's ***height*** is the line segment joining the apex and the center of the base.
e) The ***radius*** of the cone is the radius of the base.
f) The ***slant height*** is any line joining the apex and a point on the base's circle.

4. Find the missing dimension

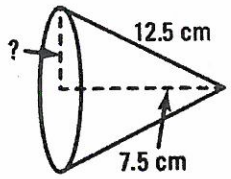
a)



$\sqrt{36^2+48^2}=c^2$

$60=c$

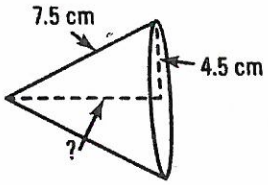
b)



$c^2-a^2=b^2$

$\sqrt{12.5^2-7.5^2}=10$

c)



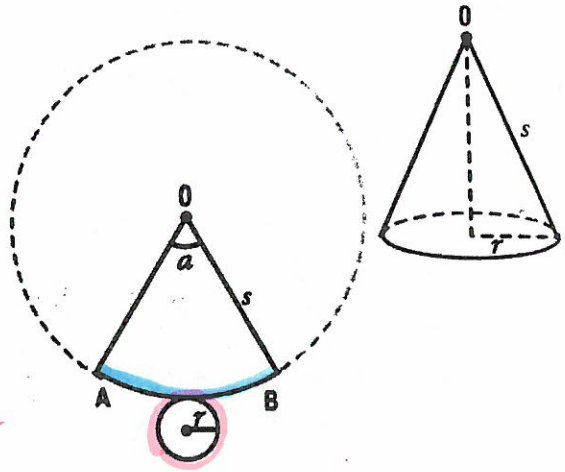
$c^2-b^2=a^2$

$\sqrt{7.5^2-4.5^2}=b$

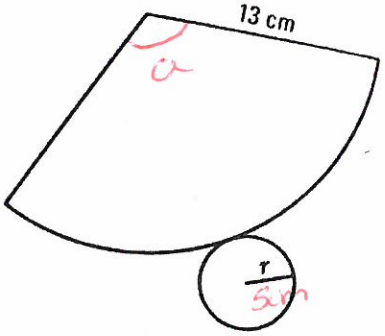
5. What is the relationship between the circumference of the base of a cone and the arc length of the larger sector?

They are equal

* When you make a cone with the circular sector the arc must have the same length as the circumference of the base.



6. The circular sector of a cone's net has a radius of 13 cm. If the radius of the cone is 5 cm, what is the angle of this sector?



$\frac{a}{360^\circ}=\frac{r}{s}$

$\frac{a}{360^\circ}=\frac{5cm}{13cm}$

$a=138.5^\circ$

* found your answer.