

1. Match the following terms with the correct definition.

B Arc

F Chord

C Diameter

E Disc

D Radius

A Sector

G Tangent

~~A~~. Part of a circle defined by a chord or 2 radii.

~~B~~. Part of the circumference.

~~C~~. The longest chord.

~~D~~. A line segment with one endpoint at the center of a circle and the other at any given point on the circle.

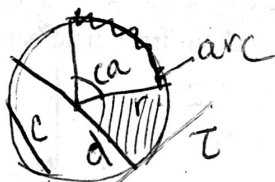
~~E~~. An area of a plane, which includes a circle and its inner surface.

~~F~~. A line segment joining any two points on a circle.

~~G~~. A segment that only touches one point on the circle.

2. Label the following:

Central angle, radius, diameter, chord, arc, tangent, and sector.



3. What is the radius of a circle if it has a diameter of 8cm? 4cm.  
What is the central angle that intercepts an arc that is one fifth of a circle? 72°

$360/5$

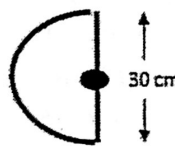
4. Calculate the following:

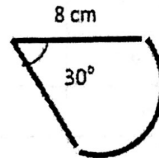
a) Radius: 4cm  $C = 2\pi r$   
Circumference = 25.13 cm

b)  $C = 18.84\text{km} = 2\pi r$   
Radius =  $\frac{C}{2\pi} = \underline{2.99\text{km}}$

c)  $D = 28\text{m}$   $r = 14$   
Area =  $\pi r^2 = \underline{615.75\text{m}^2}$

d) Area is  $157.08\text{cm}^2$   $\sqrt{\frac{A}{\pi}} = r = 7.07$   
Diameter = 14.14 cm

e)   
Arc = \_\_\_\_\_  
 $C = \pi d = \pi (30) = \underline{94.25\text{cm}}$

f)   
area =  $\pi r^2$   
 $= \pi (8)^2$   
 $= 201.06\text{cm}^2$   
Sector =  $\frac{30}{360} = \frac{x}{201.06}$

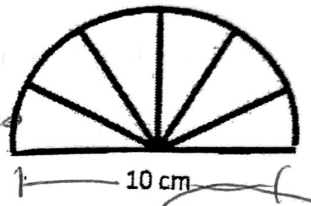
$\frac{180}{360} = \frac{x}{94.25}$   $x = 47.12\text{cm}$

$x = 16.76\text{cm}^2$

5. Half of a pizza remains in the fridge. It is in a shape of a semicircle. If the pizza includes 6 equal slices, what is the area of each slice?

Area whole pizza =  $\pi r^2 = \pi(5)^2 =$

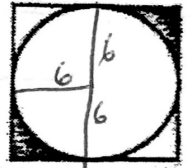
$78.54 \text{ cm}^2 \div 2 = 39.27 \text{ cm}^2 \div 6$



6. A circle with a radius of 6cm is inscribed in a square. What is the area of the shaded region? =  $6.5 \text{ cm}^2$

$12 \times 12 - \pi(6)^2$   
 $144 - 113.1 =$

$30.9 \text{ cm}^2$



7. The crust of a pizza slice measures  $\frac{14.4 \text{ cm}}{\text{arc}}$ . The slice portion corresponds to a central angle of  $60^\circ$ . Calculate the radius of the pizza.

①  $\frac{60^\circ}{360^\circ} = \frac{14.4 \text{ cm}}{\text{circumference cm}}$

③  $C = 2\pi r$

$\frac{C}{2\pi} = r$

②  $C = 86.4 \text{ cm}$

$\frac{86.4}{(2\pi)} = r = 13.8 \text{ cm}$

8. A track field is composed of a rectangle with a length of 24m and two semicircles at its ends. The radius of the circle is 20m. Calculate the perimeter of the track field below.

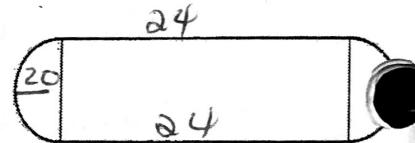


$24 + 24 + 1 \text{ circle}$

$48 + 2\pi r$

$48 + 2\pi(20)$

$48 + 125.7 = 173.7 \text{ m}$



9. A circle has an arc of 10cm intercepted with a  $40^\circ$  angle. Find the area of this sector.

①  $\frac{40^\circ}{360^\circ} = \frac{10 \text{ cm}}{\text{Circumference}}$

④  $\frac{40^\circ}{360^\circ} = \frac{X \text{ cm}^2}{644.6 \text{ cm}^2}$

⑤  $X = 71.6 \text{ cm}^2$

②  $C = 90 \text{ cm}$   $\frac{C}{2\pi} = r = \frac{90}{2\pi} = 14.3 \text{ cm}$   $\text{Area} = \pi r^2 = 644.6 \text{ cm}^2$

10. Complete the chart below and then on the right, construct a circle graph using this data.

Pizza topping	# of people	%	Angle size
All Dressed	11	44	$158.4^\circ$
Vegetarian	8	32	$115.2$
Cheese	4	16	$57.6^\circ$
Hawaiian	2	8	$28.8^\circ$
TOTAL	25	100	$360^\circ$