CHAPTER NINE

PIE CHART

PIE CHART:

(Q1) In a classroom, there are 10 students. Three study Maths, five study physics and two study geography .Represent this on a pie chart.

Solution

Total number of students = 10.

For Maths:

Number of those who study Maths = 3.

=> The angle representing those who study Maths $= \frac{3}{10} \times 360$

$=108^{0.}$

For Physics:

Number of those who study physics = 5.

=>The angle representing those who study physics

$= 180^{0..}$

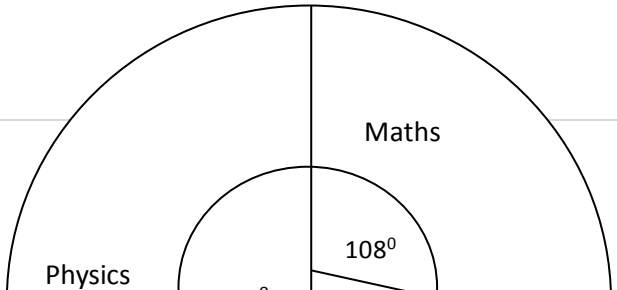
For Geography:

Number of those who study geography = 2 .

=>Angle representing geography students $= \frac{2}{10} \times 360 = 72^{0}$.

N/B: All the calculated angles when added together must be equal to $360^{0.}$

=> $108^0+180^0+72^0 = 360^0$



N/B: The pie chart must be drawn accurately, using a protractor.

(Q2) During a school party, 40 students took in Banku, 60 took in rice, 30 took in cassava and 50 took in Tuo. Represent this on a pie chart.

Solution

Total number of students = 40 +30 + 50 + 60 =180^0.

Banku:

Number of students who ate Banku = 40

=>The angle representing those who took in Banku =

$\frac{40}{180} \times 360^0 = 80^0$

Rice:

Number of students who ate rice = 60.

=>The angle which represents those who took in rice =

$\frac{60}{180} \times 360^0 = 120^0$

Cassava:

The number of those who took in cassava= 30.

=> The angle representing those who took in cassava =

$\frac{30}{180} \times 360^0 = 60^0$.

Tuo:

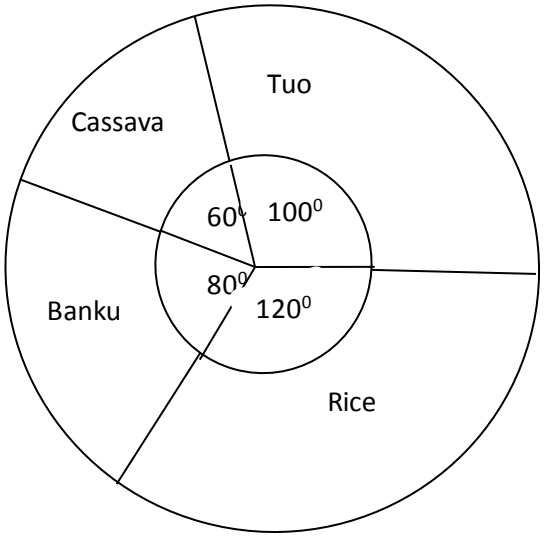
The number of those who took in Tuo = 50.

=> The angle representing those who took in Tuo=

$\frac{50}{180} \times 360^0 = 100^0$

N/B: As already stated, the sum of all the angles calculated must be equal to $360^0$and if this is not so, then there is a mistake somewhere

i.e. $100^0 + 60^0 + 120^0 + 80^0 = 360^0$



(Q3)

District	Production/tones
Bibiani	600
v 0	900
Wiaso	)
Ahafo	1500
Agona	2400

The given table shows the production of timber in five districts in Ghana, for a certain year.

(a) Draw a pie chart to represent this information.
(b) What percentage of timber production was from Nkawkaw

Solution

(a) Total production = 600 + 900 + 1800 + 1500 + 2400 =7200t.

Bibiani:

Production from Bibiani = 600t .

Angle representing this production

$= \frac{600}{7200} \times 360^0 = 30^0$.

Nkawkaw:

Production from Nkawkaw = 900t.

Angle which represents this production

$= \frac{900}{7200} \times 360^0 = 45^0$

Wiaso:

Production from Wiaso = 1800t

Angle representing this production

$= \frac{1800}{7200} \times 360 = 90^0$.

Ahafo:

Production from Ahafo = 1800t.

Angle representing this production

$= \frac{1800}{7200} \times 360 = 75^0$.

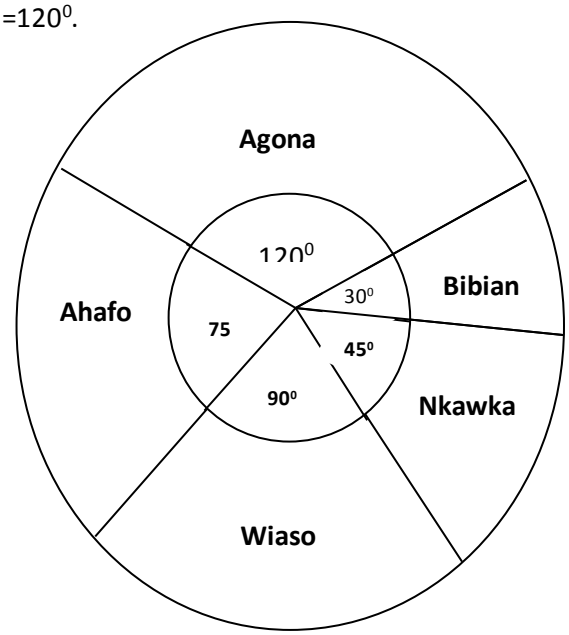
Agona:

Production = 2400t.

Angle representing this production

$= \frac{2400}{7200} \times 360^0$

$=120^0$.



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Percentage of production from Nkawkaw

$= \frac{900}{7200} \times 100 = 12.5\%$

(Q4)

Agric	30%
Power	20%
Transport	$x\%$
Entertainment	40%

The table shows the percentage allocation of funds for the welfare of a village.

(a) Illustrate this information on a pie chart.
(b) If the total amount allocated was ¢4000, determine the allocation for power and transport.

N/B: Since we are dealing with percentage, then the total is 100 .

=>We must first determine the value of x

Solution

Since the total = 100.

$=>30^0+20^0+x^0+40^0=100,$

$=> 90^0+ x^0 = 100^0$

=> x =10%.

Agric:

Angle representing Agric.

$= \frac{30}{100} \times 360^0 = 108^0$.

Power:

Angle representing power

$= \frac{20}{100} \times 360 = 72^0$.

Transport:

Angle representing transport

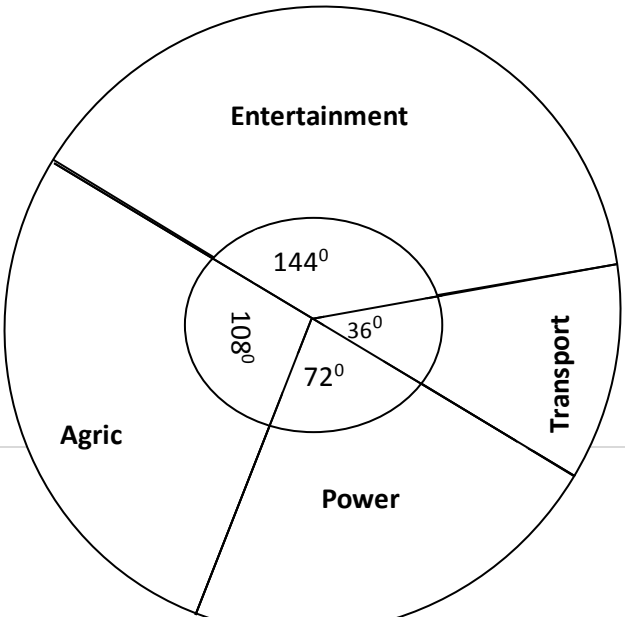
$= \frac{x}{100} \times 360 = \frac{10}{100} \times 360 = 36,^0$ since x = 10%.

Entertainment:

Angle representing entertainment

$= \frac{40}{100} \times 360 = 144^0$

(a)



(c) Total amount allocated =¢4000.

Allocation for power = 20% of 4000

$= \frac{20}{100} \times 4000$ = ¢800