

# Homework/Extension

## Step 7: Draw Pie Charts

### National Curriculum Objectives:

Mathematics Year 6: (6S1) [Interpret and construct pie charts and line graphs and use these to solve problems](#)

### Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

**Developing** Complete the missing information in the table where 1 child represents  $1^\circ$ . Use the table to label the pie chart correctly.

**Expected** Complete the missing information in the table and label the pie chart using a total number divisible by 6. Use the table to label the pie chart correctly.

**Greater Depth** Complete the missing frequency and degrees in the chart and label the pie chart where the total number is divisible by a factor of 360. Use the table to label the pie chart correctly.

Questions 2, 5 and 8 (Varied Fluency)

**Developing** Complete the table and use the data to complete the pie chart using a protractor. Data totals 36 degrees.

**Expected** Complete the table and use the data to create a pie chart using a protractor. Percentages are in multiples of 10.

**Greater Depth** Complete the table and use the data to create a pie chart using a protractor. Percentages are in multiples of 5.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

**Developing** Explain if a statement is correct using their knowledge of converting data into degrees where the number totals 36.

**Expected** Explain if a statement is correct using their knowledge of converting data into degrees where the number is divisible by 6.

**Greater Depth** Explain if a statement is correct using their knowledge of converting data into degrees.

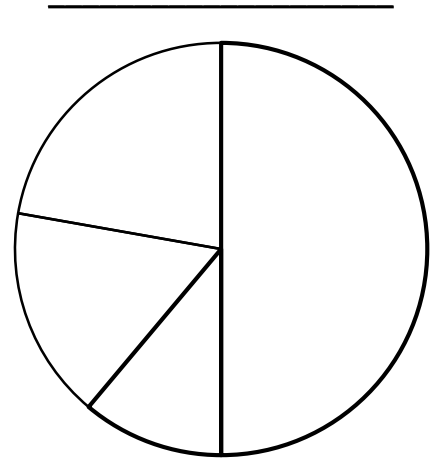
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# Draw Pie Charts

1. A survey asked 360 pupils about their favourite pizza. Use this information to complete the table and label the pie chart.

Pizza	Number of Votes	Degrees
Margherita	180	◦
Veggie	40	40°
Pepperoni		60°
Meat Feast	80	◦

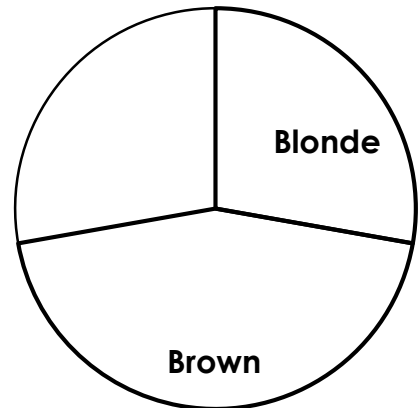


VF  
HW/Ext

2. Complete the table and use a protractor to complete the pie chart using the information given.

Hair colour	Number of Votes	Degrees
Blonde	10	100°
Brown	16	◦
Black	7	◦
Ginger	3	◦

HAIR COLOUR



VF  
HW/Ext

3. Hannah says,



If there are 360 children who take part in a survey, each child will be worth 1° on a pie chart.

Is Hannah correct? Explain how you know.

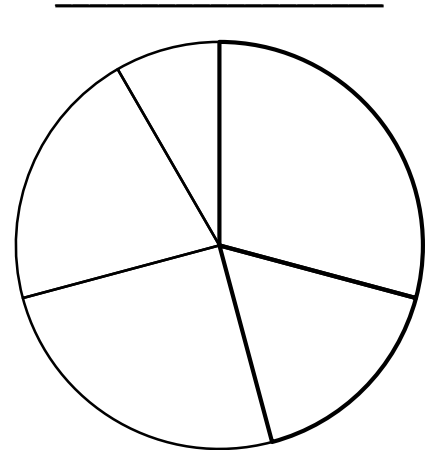


RPS  
HW/Ext

# Draw Pie Charts

4. A survey asked 24 pupils about their favourite pastimes. Use this information to complete the table and label the pie chart.

Pastime	Number of Votes	Degrees
Football	7	°
Swimming	4	60°
Reading		90°
You Tubing	5	°
Baking		30°

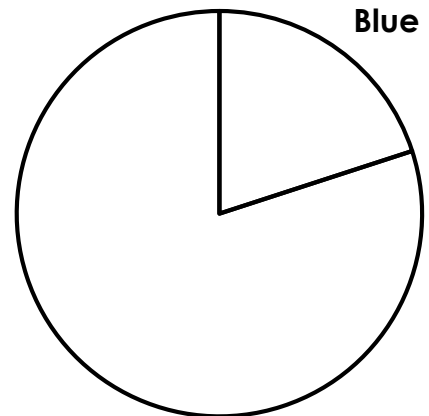


VF  
HW/Ext

5. Complete the table and use a protractor to complete the pie chart using the information given.

Favourite Colour	Number of Votes	Degrees
Blue	%	°
Red	20%	°
Green	10%	°
Purple	30%	°
Yellow	10%	°
Orange	10%	°

## FAVOURITE COLOURS



VF  
HW/Ext

6. Jordan says,



If there are 18 children who take part in a survey, each child will be worth 20° on a pie chart.

Is Jordan correct? Explain how you know.

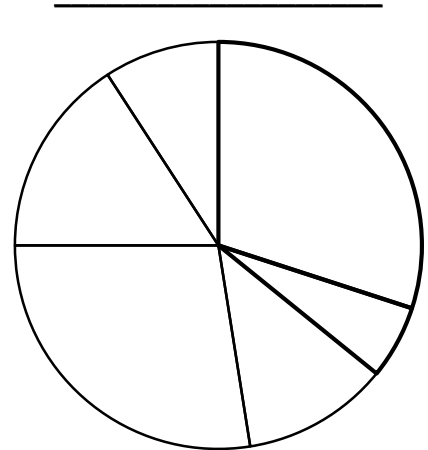


RPS  
HW/Ext

## Draw Pie Charts

7. A survey asked 120 pupils about their favourite authors. Use this information to complete the table and label the pie chart.

Favourite Author	Number of Votes	Degrees
Rowing		$108^\circ$
Horrorit	7	$^\circ$
Deal		$42^\circ$
Malliams	33	$^\circ$
Wilsing	19	$^\circ$
Morperso		$33^\circ$

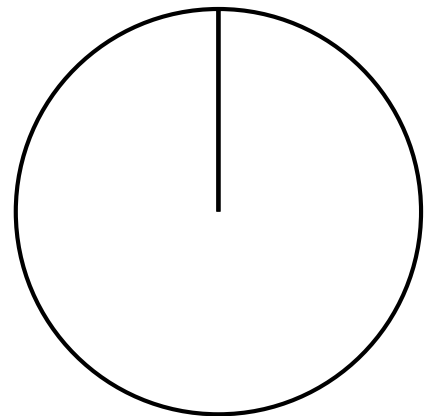


VF  
HW/Ext

8. Complete the table and use a protractor to complete the pie chart using the information given.

Favourite Fruit	Number of Votes	Degrees
Mango		$54^\circ$
Kiwi	5%	
Banana		$36^\circ$
Grapes	25%	$90^\circ$
Apple		
Orange	10%	

### FAVOURITE FRUITS



VF  
HW/Ext

9. William says,



To convert a set of data in to degrees you have to divide 360 by 100 and then multiply by the number of people for that category.

Is William correct? Explain how you know.



RPS  
HW/Ext

# Homework/Extension

## Draw Pie Charts

### Developing

- Margherita; 180 votes, **180°**  
Veggie; 40 votes, **40°**  
Pepperoni; **60 votes**, **60°**  
Meat Feast; 80 votes, **80°**
- Blonde; 10 votes, **100°**  
Brown; 16 votes, **160°**  
Black; 7 votes, **70°**  
Ginger; 3 votes **30°**



3. **Hannah is correct. To convert data into degrees you have to divide 360 by the total number.  $360 \div 360 = 1$**

### Expected

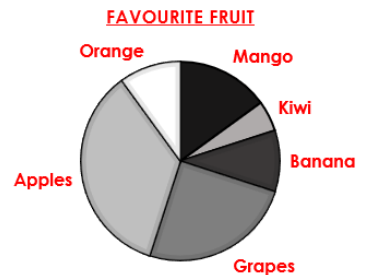
- Football; 7 votes, **105°**  
Swimming; 4 votes, **60°**  
Reading; **6 votes**, **90°**  
You Tubing; 5 votes, **75°**  
Baking; **2 votes**, **30°**
- Blue; **20%**, **72°**  
Red; **20%**, **72°**  
Green; **10%**, **36°**  
Purple; **30%**, **108°**  
Yellow; **10%**, **36°**  
Orange; **10%**, **36°**



6. **Jordan is correct. To convert data into degrees you have to divide 360 by the total number.  $360 \div 18 = 20$**

### Greater Depth

- Rowling; **36 votes**, **108°**  
Horrorit; 7 votes, **21°**  
Deal; **14 votes**, **42°**  
Malliams; 33 votes, **99°**  
Wilsing; 19 votes, **57°**  
Morperso; **11 votes**, **33°**
- Mango; **15%**, **54°**  
Kiwi; **5%**, **18°**  
Banana, **10%**, **36°**  
Grapes, **25%**, **90°**  
Apple, **35%**, **126°**  
Orange, **10%**, **36°**



9. **William is not correct. You need to divide 360 by the total number surveyed and then multiply by the number of people for that category. For example, if there were 90 people surveyed and there were 7 people in one category you would do  $360 \div 90 = 4$ ;  $4 \times 7 = 28$ .**