

HOME LEARNING

Year 8

Home Learning 4

Focus for this week: Finding fractions of amounts and learning about Pie Charts

Essential learning:	<ul style="list-style-type: none">• Find quarters of numbers
Practising:	<ul style="list-style-type: none">• Find fractions of amounts
Learning about:	<ul style="list-style-type: none">• Interpret pie charts
Extension:	<ul style="list-style-type: none">• Draw pie charts

Tasks:

- Look at the learning objectives, reflect on what you are already confident with, what you would like to practise and what you would like to learn this week
- Choose 2-3 worksheets to complete this week and email them to Mr. Croft
- Login to MyMaths and complete MyMaths tasks
- Spend 10 minutes a day on Times Table Rock Stars; Numbots OR Sumdog
- Please email a photo of any worksheets or poster you complete to the email address below.
This will earn you a golden token.

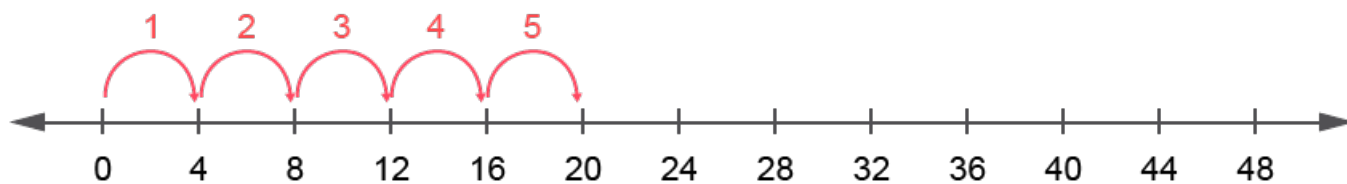
Additional activities:

- Practise saying your times tables (e.g. every-time you walk up some stairs)
- Play 'Countdown' (e.g. <https://nrich.maths.org/6499>) on your own or with someone else
- Play Yahtzee

If you have queries about this work, please contact me at acroft@bower-grove.kent.sch.uk

Worksheet 1 Find quarters of numbers

Watch this video: <https://www.youtube.com/watch?v=BN4JcpFmMCE>



Task 1: How many groups of 4 in....

We can see in the diagram that there are 5 groups of 4 in 20.

How many groups of 4 are there in 16? _____

How many groups of 4 are there in 24? _____

How many groups of 4 are there in 8? _____

How many groups of 4 are there in 32? _____

How many groups of 4 are there in 12? _____

How many groups of 4 are there in 36? _____

How many groups of 4 are there in 28? _____

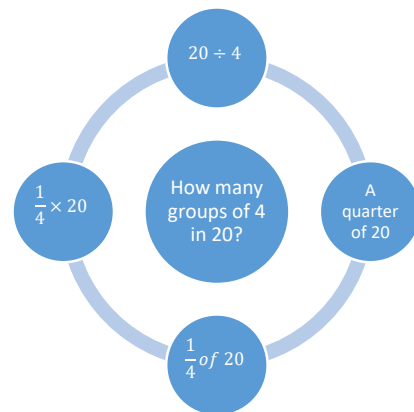
How many groups of 4 are there in 48? _____

Task 2: Same thing written in different ways.

The diagram shows different ways of saying 'How many groups of 4 in 20?'

Look at the diagram and then match the following statements.

There are two missing, see if you can fill them in



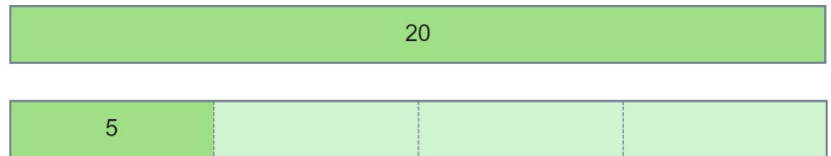
How many groups of 4 in 24?	$\frac{1}{4}$ of 48	6
How many groups of 4 in 48?	$\frac{1}{4}$ of 8	12
How many groups of 4 in 8?	$\frac{1}{4}$ of 24
How many groups of 4 in 16?	$\frac{1}{4}$ of 12

Email completed worksheets to me at acroft@bower-grove.kent.sch.uk . Each good attempt earns a golden token.

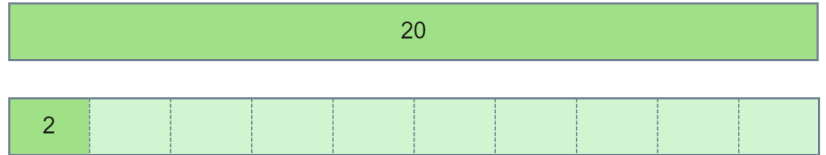
Worksheet 2 Find fractions of amounts

20 is divided into 4 equal parts. Each part is a quarter. One quarter of 20 is 5.

$$\frac{1}{4} \text{ of } 20 = 5$$



20 is divided into 10 equal parts. Each part is a tenth. One tenth of 20 is 2. $\frac{1}{10} \text{ of } 20 = 2$

**Task 1:** Find unit fractions of amounts

a) $\frac{1}{4} \text{ of } 12 =$

b) $\frac{1}{4} \text{ of } 24 =$

c) $\frac{1}{4} \text{ of } 8 =$

d) $\frac{1}{10} \text{ of } 30 =$

e) $\frac{1}{10} \text{ of } 50 =$

f) $\frac{1}{10} \text{ of } 80 =$

g) $\frac{1}{5} \text{ of } 10 =$

h) $\frac{1}{5} \text{ of } 25 =$

i) $\frac{1}{5} \text{ of } 40 =$

j) $\frac{1}{3} \text{ of } 6 =$

k) $\frac{1}{3} \text{ of } 12 =$

l) $\frac{1}{3} \text{ of } 150 =$

m) $\frac{1}{6} \text{ of } 180 =$

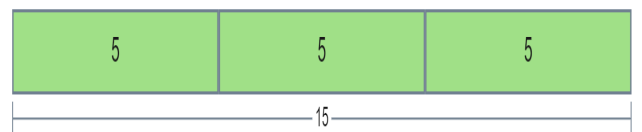
n) $\frac{1}{6} \text{ of } 240 =$

o) $\frac{1}{6} \text{ of } 360 =$

Task 2: Find fractions of amounts

15 is divided into three equal parts. Each part is $\frac{1}{3}$.

One third of 15 is 5. Two thirds of 15 are 10. $\frac{2}{3} \text{ of } 15 = 10$



a) $\frac{2}{3} \text{ of } 12 =$

b) $\frac{2}{3} \text{ of } 9 =$

c) $\frac{2}{3} \text{ of } 18 =$

d) $\frac{2}{10} \text{ of } 30 =$

e) $\frac{3}{10} \text{ of } 50 =$

f) $\frac{2}{10} \text{ of } 80 =$

g) $\frac{2}{5} \text{ of } 10 =$

h) $\frac{3}{5} \text{ of } 25 =$

i) $\frac{2}{5} \text{ of } 400 =$

j) $\frac{2}{6} \text{ of } 120 =$

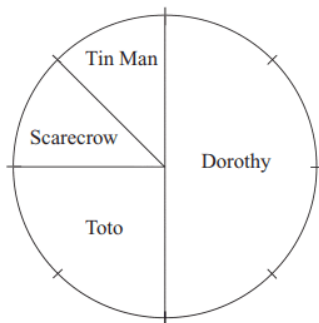
k) $\frac{3}{6} \text{ of } 120 =$

l) $\frac{5}{6} \text{ of } 240 =$

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Worksheet 3a Interpret pie charts

Task 1: A group of people were asked their favourite character in Wizard of Oz. This pie chart represents the results of the survey. Check there are eight sectors in the pie chart. One of them is 'Tin Man'.



80 people were asked. How many chose 'Tin Man'?.....

How **many more** people chose Toto, compared to Tin Man?

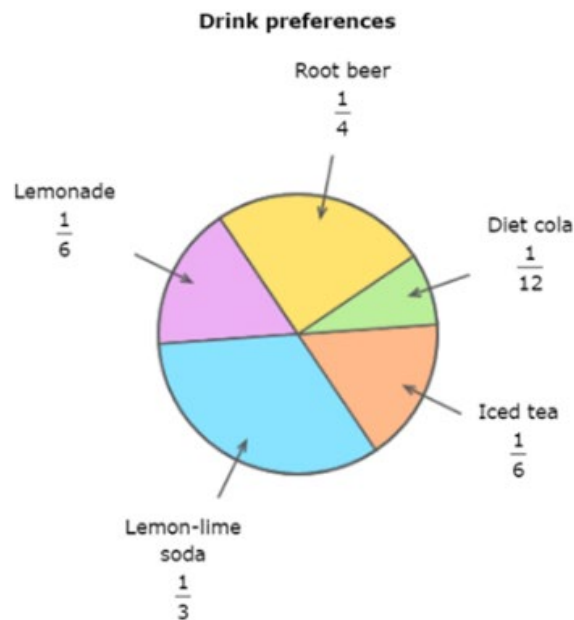
How do you know that Dorothy was chosen by 40 people?.....

.....

One character was chosen the same number of times as Tin Man, who was it?.....

Task 2

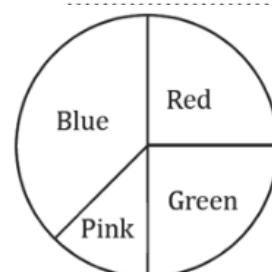
Students at Arlington Secondary School were polled regarding their favourite drinks.



Given that there are 600 students at the school, how many more preferred root beer than lemonade?

Task 3

A class of 32 students vote on their favourite colour. They then draw a pie chart to show their results. The pie chart is shown on the right.



(a) How many students favourite colour is Green?

.....[1]

(b) How many students favourite colour is NOT Blue?

.....[2]

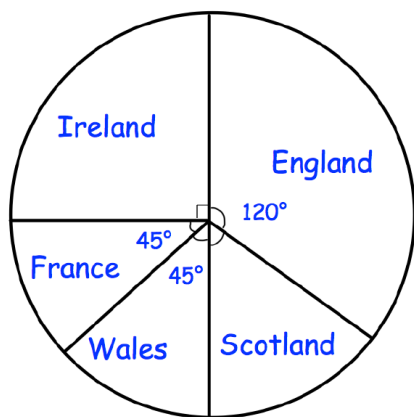
Worksheet 4 Interpret pie charts 2

Task 1 720 rugby fans were asked who they support. The pie chart and table show information about who they support.

Use the pie chart to complete the table. REMINDER: There are 360° in a circle.

The circle is divided into 360 equal parts. Each part is one degree (1°).

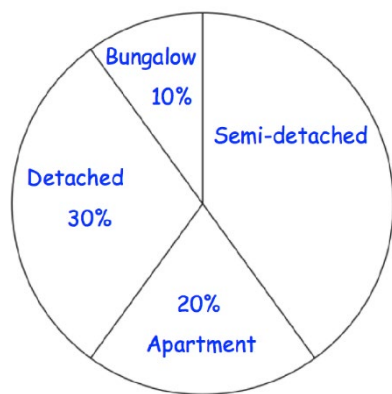
Use a calculator to complete your calculations.



Team	Angle	Fraction of the Circle	Fraction of the number of people (Calculation)	Number of People
England	120°	$\frac{120}{360}$	$720 \div 360 \times 120$	
Ireland	90°	$\frac{90}{360}$	$720 \div 360 \times 90$	
France	45°	$\frac{45}{360}$	$720 \div 360 \times 45$	
Wales	45°	$\frac{45}{360}$	$720 \div 360 \times 45$	
Scotland	60°	$\frac{60}{360}$	$720 \div 360 \times 60$	

What do you notice?

Task 2 The pie chart and table show the types of properties in a street with **80** properties in it. Use the pie chart to complete the table. You may use a calculator to do your calculations.



Property	Angle	Fraction of the Circle	Fraction of the number of people (Calculation)	Number of People
Detached	30°	$\frac{\quad}{360}$	$80 \div 360 \times 30$	
Detached				
Semi-detached				
Apartment				

What do you notice?

Worksheet 4a Draw pie charts

Task: Complete the tables then (if you have the materials below), draw the pie charts on a different sheet of paper.

You will need a sharp pencil, an angle measure and a ruler to draw pie charts.

Favourite football team	Number of people	Calculation	Angle
Manchester City	6	$360 \div 24 \times 6$	90°
Liverpool	4	$360 \div 24 \times 4$	
Gillingham	7	$360 \div 24 \times 7$	
Chelsea	2		
Crystal Palace	5		
Total	$6+5+7+2+5 = 24$		

Favourite Games Console	Number of people	Calculation	Angle
Nintendo Switch	6	$360 \div 15 \times 6$	
X Box One	4		
PS4	5		
Total	$6+4+5 = 15$		

Favourite Colour	Number of people	Calculation	Angle
Red	6	$360 \div 20 \times 6$	
Green	1		
Yellow	2		
Orange	4		
Purple	3		
Pink	1		
Grey	3		
Total			

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