

## Maths Week 2

### Session One

Which one is smaller?

a) **40%** or  $\frac{1}{4}$ ?

b) **0.4** or  $\frac{5}{8}$ ?

c) **0.5** or **5%**?

Write the following amounts in descending (largest to smallest) order:

**12%,  $\frac{3}{8}$ , 0.0123, 42%,  $\frac{1}{5}$ , 0.45**

Write the following amounts in ascending (smallest to largest) order:

(where necessary, round to 2 decimal places):

**30%,  $\frac{1}{3}$ , 0.35,  $\frac{3}{7}$ , 45%, 0.04**

### *Fractions, Decimals and Percentages*

Fill the missing field in the table so that each row contains equivalent values:

<b>Fractions</b>	<b>Decimals</b>	<b>Percentages</b>
	0.8	
		24%
$\frac{7}{8}$		
		45%
	0.14	
		5%
$\frac{2}{5}$		
	0.02	
		60%
$\frac{3}{4}$		
	0.94	

# Reasoning and Problem Solving

Using the digit cards 0-9 create a number with up to 3 decimal places e.g. 3.451

Cover the number using counters on your Gattegno chart.

10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009

Explore what happens when you multiply your number by 10, then 100, then 1,000

What patterns do you notice?

Dora says,



When you multiply by 100, you should add two zeros.

Do you agree?  
Explain your thinking.

20

## Session Two

$$4 \times \frac{3}{5}$$

$$6 \times \frac{7}{8}$$

$$10 \times \frac{4}{6}$$

$$13 \times \frac{9}{10}$$

$$6 \times \frac{11}{12}$$

$$5 \times \frac{5}{7}$$

$$7 \times \frac{7}{9}$$

$$2 \times \frac{10}{20}$$

$$4 \times \frac{2}{5}$$

$$8 \times \frac{5}{8}$$

$$10 \times \frac{10}{6}$$

$$13 \times \frac{8}{9}$$

$$9 \times \frac{8}{12}$$

$$5 \times \frac{3}{6}$$

$$7 \times \frac{8}{11}$$

$$2 \times \frac{6}{20}$$

- Now order your answers from smallest to largest. Use the fraction walls to help you. Also consider things like – *is this bigger than half?*

Q1.

$$\frac{1}{4} \times \frac{1}{8} =$$

1 mark

Q2.

$$\frac{1}{4} \times \frac{3}{7} =$$

1 mark

Q3.

$$\frac{1}{2} \times \frac{1}{2} =$$

1 mark

Q4.

$$\frac{1}{8} \times \frac{1}{2} =$$

1 mark

Q5.

$$1\frac{2}{3} \times 4 =$$

1 mark

Q6.

$$2\frac{3}{4} \times 3 =$$

1 mark

In a Maths test, Tommy answered 62% of the questions correctly.

Rosie answered  $\frac{3}{5}$  of the questions correctly.

Who answered more questions correctly?

Explain your answer.

Session Three

cards.

Use any **three** of the cards to make this correct.

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1 mark

Q2. Write these numbers in order, starting with the smallest.

$$\frac{5}{4}$$

$$\frac{7}{6}$$

$$\frac{17}{12}$$

$$\frac{4}{3}$$

smallest

1 mark

**Q3.** Write these fractions in order of size starting with the smallest.

$$\frac{3}{4}$$

$$\frac{3}{5}$$

$$\frac{9}{10}$$

$$\frac{17}{20}$$



smallest

1 mark

**Q4.** Place these numbers in order of size, starting with the **smallest**.

**0.19**

**0.9**

**0.091**

**0.109**

**smallest**

**largest**

1 mark

Place these fractions in order of size, starting with the **smallest**.

$$\frac{1}{2}$$

$$\frac{1}{3}$$

$$\frac{5}{12}$$

$$\frac{5}{6}$$

**smallest**

**largest**

1 mark

# Adding and subtracting fractions (different denominators)

## 1. Fluency

1. Calculate the following

a)  $\frac{1}{2} + \frac{1}{4} =$

b)  $\frac{4}{5} + \frac{2}{15} =$

c)  $\frac{2}{3} + \frac{12}{15} =$

d)  $\frac{1}{2} + \frac{9}{2} =$

e)  $\frac{2}{6} + \frac{2}{7} =$

f)  $\frac{2}{7} + \frac{2}{5} =$

g)  $\frac{x-1}{2} + \frac{2x}{5} =$

2. Calculate the following

a)  $\frac{2}{5} - \frac{1}{9} =$

b)  $\frac{1}{5} - \frac{2}{15} =$

c)  $\frac{1}{5} - \frac{2}{8} =$

d)  $\frac{10}{2} - \frac{6}{2} =$

e)  $\frac{2}{4} - \frac{2}{7} =$

f)  $\frac{2}{5} - \frac{2}{4} =$

g)  $\frac{x+2}{2} - \frac{2}{4} =$

3. Calculate the following

a)  $\frac{1}{2} + \frac{2}{4} - \frac{2}{5} =$

b)  $\frac{1}{2} + \frac{2}{7} - \frac{1}{2} =$

c)  $\frac{6}{8} - \frac{1}{4} + \frac{5}{10} =$

d)  $\frac{2x}{12} + \frac{2x}{8} - \frac{5x}{10} =$

## 2. Reasoning

1. Harry says that  $\frac{2}{5} + \frac{1}{9} = \frac{2}{9} = \frac{2}{14}$ . Explain to Harry the common mistake he has made and what the correct answer should be.

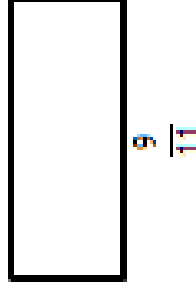
2. Rosie and Jim were asked to calculate  $\frac{1}{2} + \frac{12}{15} =$ . Rosie got the answer to be  $\frac{49}{30}$  whereas Jim got the answer to be  $1\frac{10}{30}$ . Explain why they are both correct.

3. Find the fraction that is halfway between  $\frac{1}{2}$  and  $\frac{2}{7}$ . Explain your reasoning.

4. Lucy was asked to add together  $\frac{4}{10} + \frac{2}{4}$ . Her answer was  $\frac{16}{10}$ . Can you explain to Lucy a better answer that she could have given and why?

## 3. Problem solving

1. Calculate the perimeter



$\frac{1}{3}$

2. In the magic square each row, column and diagonal have the same total. Can you work out the missing fractions.

$\frac{1}{10}$		$\frac{3}{10}$
$\frac{9}{20}$		
$\frac{1}{5}$	$\frac{3}{20}$	

3. Ruth has a carton of milk that contains  $\frac{9}{11}$  litres.

After putting some milk on her cereal, Ruth now has  $\frac{2}{5}$  litres. How much milk has Ruth used?

4. On Monday I drove to work. My friend drove an extra  $\frac{11}{6}$  miles to get to her work. Altogether we drove  $\frac{25}{2}$  miles. How far did my friend have to drive to work? Leave your answer as an improper fraction.

5. Fill in the missing number in the following calculation

$$\frac{\quad}{10} + \frac{1}{4} = \frac{17}{20}$$

**1. Work out:**

a.  $\frac{1}{8} + \frac{3}{4} =$

b.  $\frac{5}{12} + \frac{1}{4} =$

c.  $\frac{4}{9} + \frac{1}{3} =$

d.  $\frac{2}{5} + \frac{3}{10} =$

e.  $\frac{3}{7} + \frac{5}{21} =$

**2. Work out:**

a.  $\frac{1}{4} + \frac{2}{3} =$

b.  $\frac{1}{5} + \frac{1}{2} =$

c.  $\frac{1}{3} + \frac{1}{5} =$

d.  $\frac{5}{6} + \frac{2}{4} =$

e.  $\frac{1}{8} + \frac{1}{3} =$

**3. Work out:**

a.  $\frac{3}{4} + \frac{5}{6} =$

b.  $\frac{5}{7} + \frac{3}{8} =$

c.  $\frac{2}{12} + \frac{4}{5} =$

d.  $\frac{4}{13} + \frac{1}{4} =$

e.  $\frac{1}{6} + \frac{1}{7} =$



Session 4

3. Work these out.

a)  $6 \div \frac{1}{4} =$

b)  $\frac{1}{5} \div 8 =$

c)  $7 \div \frac{2}{3} =$

d)  $5 \div \frac{2}{5} =$

e)  $\frac{3}{4} \div 15 =$

f)  $\frac{6}{7} \div 12 =$

g)  $\frac{5}{6} \div 5 =$

h)  $4 \div \frac{2}{5} =$

i)  $\frac{2}{7} \div 7 =$

j)  $10 \div \frac{3}{4} =$



## Can you crack the code?

<b>A</b>	$\frac{2}{24}$	<b>N</b>	$\frac{9}{36}$
<b>B</b>	$\frac{16}{3}$	<b>O</b>	$\frac{4}{25}$
<b>C</b>	$\frac{7}{56}$	<b>P</b>	$\frac{5}{13}$
<b>D</b>	$\frac{1}{11}$	<b>Q</b>	$\frac{8}{15}$
<b>E</b>	$\frac{1}{12}$	<b>R</b>	$\frac{3}{30}$
<b>F</b>	$\frac{8}{19}$	<b>S</b>	$\frac{4}{77}$
<b>G</b>	$\frac{8}{11}$	<b>T</b>	$\frac{17}{54}$
<b>H</b>	$\frac{1}{10}$	<b>U</b>	$\frac{10}{21}$
<b>I</b>	$\frac{13}{28}$	<b>V</b>	$\frac{1}{6}$
<b>J</b>	$\frac{1}{2}$	<b>W</b>	$\frac{4}{39}$
<b>K</b>	$\frac{1}{9}$	<b>X</b>	$\frac{1}{4}$
<b>L</b>	$\frac{6}{11}$	<b>Y</b>	$\frac{7}{18}$
<b>M</b>	$\frac{10}{21}$	<b>Z</b>	$\frac{4}{5}$

$\frac{1}{3} \div 4$	$\frac{1}{2} \div 3$	$\frac{1}{3} \div 4$	$\frac{3}{6} \div 5$	$\frac{7}{9} \div 2$
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$\frac{2}{3} \div 8$	$\frac{9}{12} \div 3$	$\frac{4}{11} \div 7$	$\frac{4}{13} \div 3$	$\frac{1}{3} \div 4$	$\frac{3}{6} \div 5$
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$\frac{13}{14} \div 2$	$\frac{4}{11} \div 7$
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$\frac{7}{8} \div 7$	$\frac{4}{5} \div 5$	$\frac{3}{6} \div 5$	$\frac{3}{6} \div 5$	$\frac{1}{3} \div 4$	$\frac{7}{8} \div 7$	$\frac{17}{18} \div 3$
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