

Fractions

Learning Objectives:

- Read, write, order and compare common fractions and mixed numbers
- Find fractions of a whole

Recap

Work out:

1. $10 - 9 \times 2$

2. $(12 \div 3) + 20$

3. $3^3 + (5-4)$

4. $8 \times (4 \div 2) \times 6$

5. $(8 \div 4) \times (2 + 6)$

6. $5 + 3^2 - 6 \times 4$

Equivalent Fractions



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

$$\frac{1}{2} = \frac{\square}{4}$$

$$\frac{4}{6} = \frac{\square}{12}$$

$$\frac{2}{3} = \frac{\square}{6}$$

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

$$\frac{2}{3} = \frac{\square}{12}$$

$$\frac{3}{6} = \frac{\square}{12}$$

$$\frac{1}{3} = \frac{\square}{6}$$

$$\frac{3}{4} = \frac{\square}{8}$$

$$\frac{5}{6} = \frac{\square}{12}$$



Try this!

Write an equivalent fraction for the following:

1. $\frac{4}{12}$

6. $\frac{18}{30}$

2. $\frac{8}{10}$

7. $\frac{42}{50}$

3. $\frac{32}{70}$

8. $\frac{6}{30}$

4. $\frac{12}{24}$

9. $\frac{32}{70}$

5. $\frac{25}{60}$

10. $\frac{15}{30}$

Ordering Fractions

Put the following fractions in order from biggest to smallest:

$\frac{1}{6} \xrightarrow{\times 3} \frac{3}{18}$ $\frac{1}{3} \xrightarrow{\times 6} \frac{6}{18}$ $\frac{11}{18}$ $\frac{2}{9} \xrightarrow{\times 2} \frac{4}{18}$

- The common denominator is 18.
- Each fraction needs to then be converted so that all the denominators are the same.
- The numerators can then be compared.

$$\frac{11}{18}, \quad \frac{1}{3}, \quad \frac{2}{9}, \quad \frac{1}{6}$$

Ordering Fractions



Order these fractions in ascending order

a) $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{4}$

b) $\frac{2}{5}$, $\frac{6}{10}$, $\frac{1}{2}$

c) $\frac{3}{4}$, $\frac{1}{3}$, $\frac{1}{2}$

d) $\frac{2}{3}$, $\frac{1}{4}$, $\frac{5}{6}$

Mixed Numbers

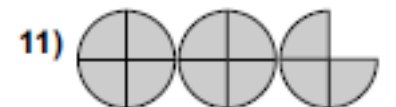
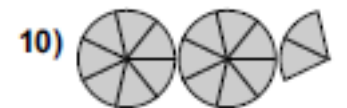
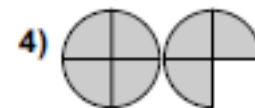
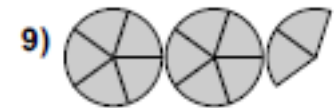
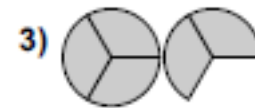
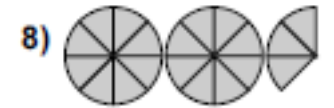
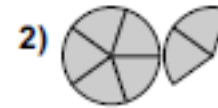
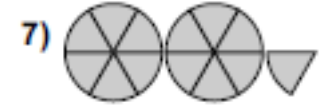
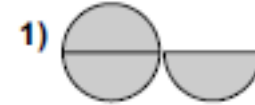
2 full shapes coloured in

...with 1 more part shaded in

$$2\frac{1}{4}$$

Shape is divided into 4 parts

Write the following as Mixed Numbers:





Improper Fractions and Mixed numbers

Convert these improper fractions to mixed numbers

1. $\frac{44}{8}$

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

2. $\frac{11}{2}$

5. $\frac{21}{5}$

3. $\frac{18}{7}$

6. $\frac{10}{27}$

Fractions of an Amount

Find $\frac{2}{5}$ of 100

$$100 \div 5 = 20$$

$$20 \times 2 = \underline{40}$$

Fractions of an amount

Use the bus stop method for division and
column method for multiplication

Calculate



$$\frac{3}{4} \text{ of } 36$$

(2)

Fractions of an amount

Use the bus stop method for division and column method for multiplication for non calc Q

1. Work out



$\frac{2}{5}$ of 35 days

.....
(2)

2. Work out



$\frac{1}{3}$ of 24

.....
(1)

3. Work out



$\frac{4}{7}$ of 2 weeks

Give your answer in days.days
(2)

4.



In January a baby elephant weighs 180kg.

By March the weight of the baby elephant had increased by $\frac{3}{8}$.

Work out the weight of the baby elephant in March.

.....kg
(3)

5.

Calculate



$\frac{5}{8}$ of 14kg

.....kg
(2)

Fractions of an amount

Use the bus stop method for division and column method for multiplication

1. Which is larger?



$\frac{1}{2}$ of 280 or $\frac{3}{8}$ of 400

.....
(3)

2. Joanne has 300 sweets.



She gives $\frac{1}{2}$ of the sweets to Erin.

Joanne then gives $\frac{1}{3}$ of the remaining sweets to William.

How many sweets does Joanne have left?

.....
(2)

3. James earns £800 a month.



He spends $\frac{1}{4}$ of this money on rent.

James spends $\frac{2}{5}$ of the money on food and bills.

How much money has he left? £.....
(4)



Exam Question

The normal price for a ticket to the park is £12
There is a discount for groups.

A group of 10 people will save $\frac{1}{5}$ of the normal price.

Jane thinks a group of 10 people will save £25 in total.

(b) Will a group of 10 people save £25 in total?
Show a check of your working.

(4)



Exam Question

In January a baby elephant weights 180kg.

By March the weight of the baby elephant increased by $\frac{3}{8}$.

Work out the weight of the baby elephant in March.



Exam Question

Kay asks 84 people to complete a survey about the exhibition.
Only 21 people complete the survey.

Kay wants to know what 21 is as a fraction of 84

(a) Write down 21 as a fraction of 84

Write your answer as a fraction in its simplest form.

(2)



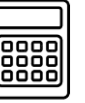
Exam Question

Donna has a target to raise £145 950

She wants to raise at least $\frac{1}{3}$ of this target in the first 6 months of fundraising.

Work out $\frac{1}{3}$ of £145 950

(2)



Practice Exam Style Questions

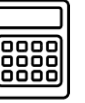
Kay buys 3 packets of seeds.
There are 50 seeds in each packet.

She plants $\frac{6}{10}$ of the seeds in her vegetable patch.

Kay plants the seeds in rows.
She plants 15 seeds in each row.

(a) How many rows of seeds does Kay plant?

(4)



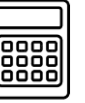
Practice Exam Style Questions

Arrange these fractions in order, smallest first.

Make sure to show your workings

$$\frac{2}{3} \quad \frac{7}{9} \quad \frac{5}{6} \quad \frac{11}{18}$$

2 marks



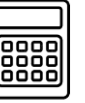
Practice Exam Style Questions

Arrange these fractions in order, smallest first.

Make sure to show your workings

$$\frac{7}{10} \quad \frac{3}{5} \quad \frac{8}{15} \quad \frac{2}{3}$$

2 marks



Practice Exam Style Questions

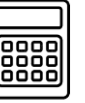
James earns £800 a month.

He spends $\frac{1}{4}$ of this money on rent.

He spends $\frac{2}{5}$ of the money on food and bills.

How much has he got left?

4 marks



Practice Exam Style Questions

Which is larger?

$\frac{1}{2}$ of 280 or $\frac{3}{8}$ of 400

Show your workings

4 marks