



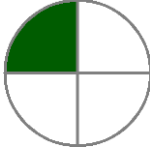
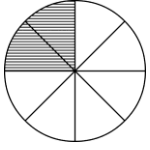

Year 7 Unit 4 Knowledge Organiser

UNDERSTANDING FRACTIONS



Key Concept

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

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$$




= 0.25

Key Words

Fraction: A fraction is made up of a numerator (top) and a denominator (bottom).

Equivalence: Two fractions are equivalent if one is a multiple of the other.

Simplify: Cancel a fraction down to give the smallest numbers possible.

Examples

Simplify $\frac{3}{24}$
a fraction

$$\frac{3}{24} \xrightarrow{\div 3} \frac{1}{8}$$

Write 0.34 as

1	●	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
0	●	3	4	

$$= \frac{34}{100} = \frac{17}{50}$$

Write $\frac{6}{7}$ as a decimal

$$\frac{6}{7} \rightarrow 7 \overline{) 6.000000}$$

6 4 5 1 3

What is $\frac{3}{5}$ of 45

$$45 \div 5 \times 3 = 27$$

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Clip Numbers

58, 59, 73, 74, 77

Tip

- A larger denominator does not mean a larger fraction.
- To find equivalent fractions multiply/divide the numerator and denominator by the same number.

Questions

- 1) Simplify a) $\frac{42}{96}$ b) $\frac{64}{120}$
- 2) Write as a decimal a) $\frac{2}{7}$ b) $\frac{3}{8}$
- 3) Write as a fraction a) 0.48 b) 0.166 c) 0.308
- 4) a) $\frac{3}{5}$ of 35 b) $\frac{2}{9}$ of 45 c) $\frac{5}{11}$ of 121

ANSWERS : 1) a) $\frac{1}{6}$ b) $\frac{15}{8}$ c) $\frac{16}{7}$ 2) a) 0.2857... b) 0.375 3) a) $\frac{25}{12}$ b) $\frac{500}{83}$ c) $\frac{250}{77}$ 4) a) 21 b) 10 c) 55



Year 7 Knowledge Organiser

FOUR OPERATIONS WITH FRACTIONS



Key Concept

Mixed numbers
These are made up of a whole number and a fraction.





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

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

$$= \frac{23}{5}$$

Key Words

Fraction: A fraction is made up of a numerator (top) and a denominator (bottom).

 Add Sum Total All together Plus In all	 Multiply Product Times Twice Total Multiplied by
 Subtract Remain Difference Less than Fewer How many more Minus	 Divide Quotient Goes into Split Equally Each

Examples

$$+\quad \frac{3}{5} + \frac{2}{7}$$

Make the denominators the same

$$\begin{array}{r} \frac{3}{5} + \frac{2}{7} \\ \times 7 \quad \times 5 \\ \hline \frac{21}{35} + \frac{10}{35} = \frac{31}{35} \end{array}$$

$$-\quad \frac{3}{5} - \frac{2}{7}$$

$$\begin{array}{r} \frac{3}{5} - \frac{2}{7} \\ \times 7 \quad \times 5 \\ \hline \frac{21}{35} - \frac{10}{35} = \frac{11}{35} \end{array}$$

4 Rules
Fractions

$$\times \quad \frac{3}{5} \times \frac{2}{7}$$

Just multiply the tops and bottoms

$$= \frac{3 \times 2}{5 \times 7} = \frac{6}{35}$$

$$\div \quad \frac{3}{5} \div \frac{2}{7}$$

Flip the second fraction and change to a times

$$\frac{3}{5} \times \frac{7}{2} = \frac{21}{10}$$

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Clip Numbers

61 – 70

Tip

- A larger denominator **does not** mean a larger fraction.
- To find equivalent fractions multiply/divide the numerator and denominator by the same number.

Questions

1) $\frac{3}{5} + \frac{4}{15}$ 2) $\frac{2}{7} + \frac{5}{8}$ 3) $\frac{7}{9} - \frac{2}{5}$ 4) $\frac{3}{7} \times \frac{4}{9}$ 5) $\frac{3}{11} \div \frac{14}{22}$

ANSWERS: 1) $\frac{13}{15}$ 2) $\frac{51}{56}$ 3) $\frac{17}{45}$ 4) $\frac{21}{4}$ 5) $\frac{7}{3}$



Year 7 Knowledge Organiser



ORDER FRACTIONS, DECIMALS & INTEGERS

Key Concept

FDP Equivalence

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%

Key Words

Integer: Whole number.

Ascending Order: Place in order, smallest to largest.

Descending Order: Place in order, largest to smallest.

Inequality: Statement that contains $<$, $>$, \leq , \geq , to show which quantity is greatest/smallest.

Examples

To order these fractions, make the denominators the same.

$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
$\frac{6}{8}$	$\frac{3}{8}$	$\frac{4}{8}$
$\frac{8}{8}$	$\frac{3}{8}$	$\frac{1}{8}$
$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
$\frac{4}{4}$	$\frac{8}{8}$	$\frac{2}{2}$

To order these, convert them all to decimals.

56%	$\frac{3}{4}$	0.871	23%	$\frac{6}{7}$
0.56	0.75	0.871	0.23	0.857...
23%	56%	$\frac{3}{4}$	$\frac{6}{7}$	0.871



Clip Numbers
37, 46, 60, 149

Tip

- Convert all numbers to the same form, either fractions, decimals or percentages.
- If using a calculator convert them all to decimals.

Questions

1) $\frac{2}{3}, \frac{3}{4}, \frac{5}{6}, \frac{7}{12}$ $\frac{3}{7}, \frac{1}{2}, 0.49, 0.2$ $\frac{7}{32}, 25\%, 0.05, \frac{29}{100}$

ANSWERS: 1) $\frac{7}{12}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$ 2) $0.2, \frac{3}{7}, 0.49, \frac{1}{2}$ 3) $0.05, \frac{7}{32}, 25\%, \frac{29}{100}$