Grade 6 - Maths

Student Study Pack

Week	Topic	Lesson	Resources
Week 21	Fractions 1	Simplification, addition & subtraction	KS3 One page 81-86
Week 22	Fractions 2	Conversions, multiplication & division	KS3 One page 87-91

*if KS3 One Maths Textbook is not available, use notes and booklets provided in class.

Fractions 1

1. Write the following fractions in words:

a) $\frac{1}{3}$	**One third**
b) $\frac{4}{7}$	**Four sevenths**
c) $\frac{3}{8}$	**Three eighths**
d) $\frac{12}{13}$	**Twelve Thirteenths**
e) $1\frac{1}{4}$	**One and One Quarter**

2. Write the following words as fractions:

a) One fifth	$\frac{1}{5}$
b) Two elevenths	$\frac{2}{11}$
c) Three eighths	$\frac{3}{8}$
d) Seven twelfths	$\frac{7}{12}$
e) Three and two thirds	$3\frac{2}{3}$

3. Simplify the following fractions:

a)	$\frac{3}{6}$	$\frac{1}{2}$
b)	$\frac{4}{10}$	$\frac{2}{5}$
c)	$\frac{12}{15}$	$\frac{4}{5}$
d)	$\frac{27}{36}$	$\frac{3}{4}$
e)	$\frac{18}{42}$	$\frac{3}{7}$

Working with Fractions - Addition and Subtraction

- In order to add or subtract, make the denominators (numbers on the bottom of the fractions) the same.
- Then add only the numerators (numbers on the top of the fractions).

Search this video on YouTube to help you understand how to add and subtract fractions.

Math Antics - Adding and Subtracting Fractions
https://www.youtube.com/watch?v=5juto2ze8Lg&feature=youtu.be

4. Working with fractions - Addition:

a)	$\frac{1}{5} + \frac{3}{5} =$	$\frac{4}{5}$
b)	$\frac{1}{3} + \frac{1}{3} =$	$\frac{2}{3}$
c)	$\frac{2}{3} + \frac{2}{3} =$	$1\frac{1}{3}$
d)	$1\frac{3}{5} + 1\frac{1}{5} =$	$2\frac{4}{5}$
e)	$\frac{3}{8} + 1\frac{5}{8} =$	2

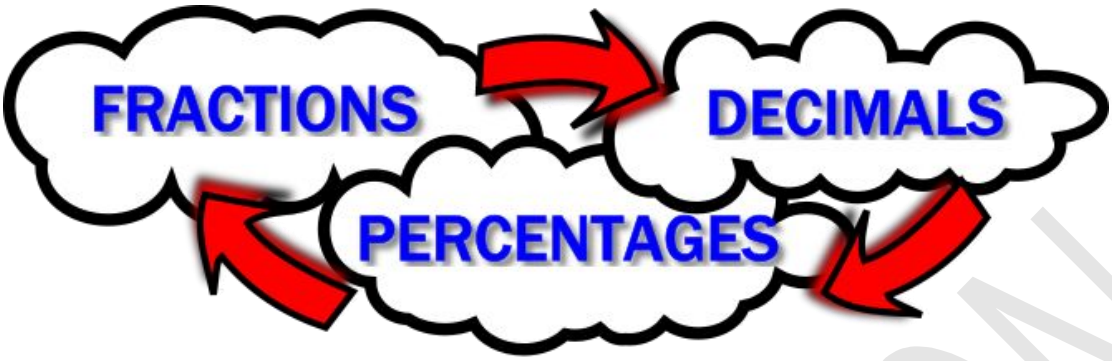
5. Working with fractions - Subtraction:

a) $\frac{6}{7} - \frac{2}{7} =$	$\frac{4}{7}$
b) $\frac{4}{5} - \frac{2}{5} =$	$\frac{2}{5}$
c) $1\frac{2}{3} - \frac{4}{3} =$	$\frac{1}{3}$
d) $\frac{9}{13} - \frac{5}{13} =$	$\frac{4}{13}$
e) $\frac{3}{6} - \frac{6}{12} =$	0

6. Super Maths! Calculate the answers in their simplest form (**hint**: try simplifying first):

a) $\frac{14}{21} + \frac{9}{27} =$	1
b) $\frac{32}{40} - \frac{4}{16} =$	$\frac{4}{5} - \frac{1}{4} = \frac{16}{20} - \frac{5}{20} = \frac{11}{20}$
c) $\frac{6}{7} - \frac{36}{42} =$	0
d) $\frac{120}{144} - \frac{16}{24} =$	$\frac{1}{6}$
e) $3\frac{21}{7} + 1 =$	7

Fractions 2



Resources

Search these videos on YouTube to help you understand how to work with fractions.

What are percentages?
https://youtu.be/JeVSmq1Nrpw

Finding a percent of a number
https://youtu.be/rR95Cbcjzus

1. Convert between fractions, decimals and percentages:

4

Fraction	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{1}{2}$	$\frac{3}{5}$	$\frac{7}{10}$	$\frac{3}{4}$	$\frac{4}{5}$	$\frac{9}{10}$
Decimal	0.1	0.2	0.25	0.3	0.4	0.5	0.6	0.7	0.75	0.8	0.9
Percentage	10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%

5

Fraction	$1\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{3}{10}$	$1\frac{1}{5}$	$1\frac{7}{10}$	$1\frac{2}{5}$
Decimal	1.75	1.5	1.3	1.2	1.7	1.4
Percentage	175%	150%	130%	120%	170%	140%

Working with Fractions - Further Instructions

Multiplying Instructions

1. Multiply the tops (numerators) and the bottoms (denominators).

$$\frac{7}{8} \times \frac{2}{3} = \boxed{\frac{14}{24}}$$

2. Simplify

$$\frac{14}{24} \xrightarrow{\div 2} \frac{7}{12}$$

Dividing Instructions

1. Flip the fraction you are dividing by (2nd one) and then multiply like above.

2. Simplify

$$\frac{7}{8} \div \boxed{\frac{2}{3}} = \frac{7}{8} \times \frac{3}{2} = \frac{21}{16} \rightarrow 1\frac{5}{16}$$

Working with Fractions - Multiplication

- Multiply the numerators together.
- Multiply the denominators together.
- Simplify.

Search this video on YouTube to help you understand how to multiply fractions.

Math Antics - Multiplying Fractions
https://www.youtube.com/watch?v=qmfXyR7Z6Lk&feature=youtu.be

2. Working with fractions - Multiplication:

a)	$\frac{7}{8} \times \frac{1}{2} =$	$\frac{7}{16}$
b)	$\frac{4}{3} \times \frac{5}{11} =$	$\frac{20}{33}$

c)	$\frac{8}{9} \times \frac{1}{6} =$	$\frac{8}{54} \rightarrow \frac{4}{27}$
d)	$\frac{3}{6} \times \frac{7}{8} =$	$\frac{21}{48} \rightarrow \frac{7}{16}$
e)	$\frac{2}{3} \times \frac{9}{8} =$	$\frac{18}{24} \rightarrow \frac{6}{8} \rightarrow \frac{3}{4}$

Working with Fractions - Division

- Flip the dividing fraction (second fraction) upside-down so that the numerator is the denominator and the denominator is now the numerator.
- Multiply like a normal fraction.
- Simplify.

Search this video on YouTube to help you understand how to divide fractions.

Math Antics - Dividing Fractions
https://www.youtube.com/watch?v=4lkq3DgvmJo

3. Working with fractions - Division:

a)	$\frac{2}{3} \div \frac{9}{8} =$	$\frac{2}{3} \times \frac{8}{9} = \frac{16}{21}$
b)	$\frac{5}{7} \div \frac{9}{12} =$	$\frac{60}{63} = \frac{20}{21}$
c)	$\frac{6}{10} \div \frac{3}{12} =$	$2\frac{2}{5}$
d)	$\frac{2}{3} \div \frac{1}{10} =$	$6\frac{2}{3}$
e)	$\frac{5}{8} \div \frac{1}{8} =$	$\frac{40}{8} = 5$