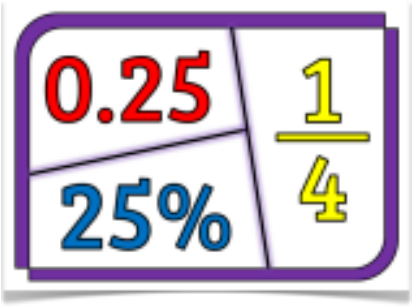
Y9 Unit 4 Overview - FDPR

Test window: 16th March 2020 - 27th March 2020

Target grade for tests:

You will learn about:

- Fractions, decimals and percentages.
- Percentage change.
- Ratio.



You will be able to:

- Calculate with fractions (improper and mixed numbers).
- Solve problems involving percentage change, including percentage increase/decrease.
- Compare two quantities using percentages
- Express one quantity as a fraction or percentage of another.
- Use ratio notation, including reduction to simplest form.
- Share amounts in a ratio.

Lesson Overview

CALCULATING FRACTIONS, DECIMALS AND PERCENTAGES

- Apply addition to proper fractions, improper fractions and mixed numbers
- Apply subtraction to proper fractions, improper fractions and mixed numbers
- Multiply proper and improper fractions
- Multiply mixed numbers
- Divide a proper fraction by a proper fraction
- Apply division to improper fractions and mixed numbers
- Use calculators to find a percentage of an amount using multiplicative methods
- Identify the multiplier for a percentage increase or decrease
- Use calculators to increase (decrease) an amount by a percentage using multiplicative methods
- Compare two quantities using percentages
- Know that percentage change = actual change ÷ original amount
- Calculate the percentage change in a given situation, including percentage increase / decrease

EXPLORING FRACTIONS, DECIMALS AND PERCENTAGES

- Write one quantity as a fraction of another where the fraction <1
- Write one quantity as a fraction of another where the fraction >1
- Write a fraction in its lowest terms by cancelling common factors
- Convert between mixed numbers and top-heavy fractions
- Understand that a percentage means 'number of parts per hundred'
- Write a percentage as a fraction
- Write a quantity as a percentage of another

PROPORTIONAL REASONING

- Describe a comparison of measurements or objects using the language 'a to b'
- Describe a comparison of measurements or objects using ratio notation a:b
- Use ratio notation to describe a comparison of more than two measurements or objects
- Convert between different units of measurement
- State a ratio of measurements in the same units

Key Words

Refer to http://studymaths.co.uk/glossary.php for definitions of the key words

Mixed number
Equivalent fraction
Simplify, cancel, lowest terms
Proper fraction, improper fraction, top-heavy fraction, vulgar fraction
Percent, percentage
Multiplier
Increase, decrease

Notation
Mixed number notation
Horizontal / diagonal bar for fractions

Fraction
Improper fraction
Proper fraction
Vulgar fraction
Top-heavy fraction
Percentage
Proportion

Notation
Diagonal fraction bar / horizontal fraction bar

Ratio
Proportion
Compare, comparison
Part
Simplify
Common factor
Cancel
Lowest terms
Unit

Notation
Ratio notation a:b for part:part or part:whole

- Simplify a ratio by cancelling common factors
- Identify when a ratio is written in its lowest terms
- Find the value of a 'unit' in a division in a ratio problem
- Divide a quantity in two parts in a given part:part ratio
- Divide a quantity in two parts in a given part:whole ratio
- Express correctly the solution to a division in a ratio problem

Suggested reading or support/ challenge available

Support is available from a Maths teacher in '*MORALE*' in M1 daily from 1:30pm -1:45pm

www.mymaths.co.uk

login: **penryn**

password: **octagon**

www.hegartymaths.com

Go to student login at the top… find your school, enter your details and then set up your password…

https://vle.mathswatch.com/vle/

login: school username followed by **@penryn-college**

password: **Penryn2016**

www.justmaths.co.uk/online

login: **PenrynStudent**

password: **Penryn**

Use your revision guide

Use the code in the front of your guide to access your free online revision

Cross curricular

SMSC:

1.1 Exploring, understanding and respecting cultural diversity e.g. exploration of different methods of multiplication (Chinese, Russian).
3.1 Developing personal qualities and using social skills (regular paired/ group work communication).
3.2 Participating, cooperating and resolving conflicts (paired/group activities).
4.2 Experiencing fascination, awe and wonder of mathematics.
4.4 Using imagination and creativity in learning

Literacy:

Verbal communication of understanding using key words in the correct context. Development of written communication of methods and strategies to problem solve.

NAC:

Science – Recognise when two fractions are equivalent. Multiply and divide fractions and decimals. Calculate using ratios (KS4). Convert one metric unit to another.
Calculate percentages of quantities. Calculate a number as a percentage of another.
R.E. – Calculate percentages of quantities (KS4).
Creative Arts – Calculate using ratios.
Business – Calculate percentages of quantities (KS4). Calculate a number as a percentage of another.
Technology – Calculate percentages of quantities (KS4). Calculate using ratios (Y9, 10, 11). Convert one metric unit to another.

Research	Note-making	Group work & discussion	Memorisation	Precision & accuracy	Independence	Reflection