Blue Coat
Church of England Academy

Year: 12/13	Subject: Functional Maths

Overview

Functional Skills qualifications provide reliable evidence of a learner's achievements against demanding content that is relevant to the workplace. The qualifications assess learners' underpinning subject knowledge and their ability to apply this knowledge to different contexts. They provide a foundation for progression to employment and further technical education, and they help learners to develop skills for everyday life. Students will follow the Level 1 or Level 2 Pathway and will be assessed at the end of the course.

Level 1

Assessment structure	Duration	Number of marks	Percentage of qualification
Section A: Non-calculator	25 minutes	14	25%
Section B: Calculator	1 hour 30 minutes	42	75%
Content areas			
Using numbers and the number system – whole numbers, fractions, decimals and percentages			
Using common measures, shapes and space			
Handling information and data			

<u>Using numbers and the number system – whole numbers, fractions, decimals and percentages</u>

1. Read, write, order and compare large numbers (up to one million)
2. Recognise and use positive and negative numbers
3. Multiply and divide whole numbers and decimals by 10, 100, 1000
4. Use multiplication facts and make connections with division facts
5. Use simple formulae expressed in words for one or two-step operations
6. Calculate the squares of one-digit and two-digit numbers
7. Follow the order of precedence of operators
8. Read, write, order and compare common fractions and mixed numbers
9. Find fractions of whole number quantities or measurements
10. Read, write, order and compare decimals up to three decimal places
11. Add, subtract, multiply and divide decimals up to two decimal places
12. Approximate by rounding to a whole number or to one or two decimal places
13. Read, write, order and compare percentages in whole numbers
14. Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof
15. Estimate answers to calculations using fractions and decimals
16. Recognise and calculate equivalences between common fractions, percentages and decimals
17. Work with simple ratio and direct proportions

<u>Using common measures, shape and space</u>

18. Calculate simple interest in multiples of 5% on amounts of money
19. Calculate discounts in multiples of 5% on amounts of money
20. Convert between units of length, weight, capacity, money and time, in the same system
21. Recognise and make use of simple scales on maps and drawings
22. Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles
23. Calculate the volumes of cubes and cuboids
24. Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles
25. Interpret plans, elevations and nets of simple 3-D shapes
26. Use angles when describing position and direction, and measure angles in degrees

<u>Handling information and data</u>

27. Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs
28. Group discrete data and represent grouped data graphically
29. Find the mean and range of a set of quantities
30. Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
31. Use equally likely outcomes to find the probabilities of simple events and express them as fractions

Level 2

Using numbers and the number system – whole numbers, fractions, decimals and percentages

1. Read, write, order and compare positive and negative numbers of any size
2. Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation
3. Evaluate expressions and make substitutions in given formulae in words and symbols
4. Identify and know the equivalence between fractions, decimals and percentages
5. Work out percentages of amounts and express one amount as a percentage of another
6. Calculate percentage change (any size increase and decrease), and original value after percentage change
7. Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers
8. Express one number as a fraction of another
9. Order, approximate and compare decimals
10. Add, subtract, multiply and divide decimals up to three decimal places
11. Understand and calculate using ratios, direct proportion and inverse proportion
12. Follow the order of precedence of operators, including indices

Using common measures, shape and space

13. Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting
14. Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph
15. Calculate using compound measures including speed, density and rates of pay
16. Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except for triangles and circles)
17. Use formulae to find volumes and surface areas of 3-D shapes including cylinders (formulae to be given for 3-D shapes other than cylinders)
18. Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements
19. Use coordinates in 2-D, positive and negative, to specify the positions of points
20. Understand and use common 2-D representations of 3-D objects
21. Draw 3-D shapes to include plans and elevations
22. Calculate values of angles and/or coordinates with 2-D and 3-D shapes

Handling information and data

23. Calculate the median and mode of a set of quantities
24. Estimate the mean of a grouped frequency distribution from discrete data
25. Use the mean, median, mode and range to compare two sets of data
26. Work out the probability of combined events including the use of diagrams and tables
27. Express probabilities as fractions, decimals and percentages
28. Draw and interpret scatter diagrams and recognise positive and negative correlation

Assessment structure	Duration	Number of marks	Percentage of qualification
Section A: Non-calculator	25 minutes	16	25%
Section B: Calculator	1 hour 30 minutes	48	75%
Content areas			
Using numbers and the number system – whole numbers, fractions, decimals and percentages			
Using common measures, shapes and space			
Handling information and data			