## Name:

## Class:

| Order | Unit | Links | Pre-requisite skills |
| :---: | :---: | :---: | :---: |
| 1 | Integers, powers \& roots |  |  |
| 2 | Lines, angles \& shape |  |  |
| 3 | Simplifying \& substituting | Unit 1 | Using powers, listing factors, understanding product / sum. |
| 4 | Area and perimeter | Unit 2 | Forming expressions for area/perimeter algebraically through use of brackets, correct notation and simplifying expressions. |
| 5 | Calculations \& Accuracy | Unit 1 | Understanding numbers. |
| 6 | FDP | Unit 1 | Using powers, understanding lowest common multiples. |
| 7 | Sequences, functions and graphs | Unit 3/5 | Substituting into a function applying BIDMAS to calculate coordinates, factorising for roots of quadratics, understanding powers and all 4 operations with negatives. |
| 8 | Ratio \& Proportion | Unit 1/7 | Decimals/powers as multipliers, calculating/understanding fractions as parts. |
| 9 | Transformations | Unit 2/8 | Identifying 90/180/270 degrees, plotting mirror lines of basic functions. |
| 10 | Pythagoras and Trigonometry | Unit 1/2/3/4/5 | Powers/surds, types of triangles, use in area/perimeter problems to find required lengths, rounding answers. |
| 11 | Forming and solving | Unit 3/4 | Properties of 2d shapes, angle facts including polygons \& parallel lines, algebraic notation and simplifying, forming expressions. |
| 12 | Measures | Unit 1/7 | Calculating, multiplying decimals and powers of 10 for metric conversions. |
| 13 | Volume and Surface area | Unit 4/5/13 | Area of 2d shapes, rounding/calculating with bounds, conversion of units (length/area/volume), calculating missing sides using pythagoras/ trigonometry. |
| 14 | Probability | Unit 1/7 | Types of numbers, calculating with fractions \& decimals. |
| 15 | Inequalities | Unit 12/8/5/7 | Solving equations, rounding, plotting graphs for regions, calculating with fractions. |
| 16 | Statistics | Unit 1/6/9/16 | Using a protractor for pie charts, proportion to calculate angles for a pie chart, use of inequality symbols for recording data. |

## Homework 1 Due

## Homework 2 Due

## Homework 3 Due

## Year 10 - Term 2: Foundation

| Overview | Learning Objective |  |  |
| :---: | :---: | :---: | :---: |
| Topic: Area and Perimeter <br> Big Questions <br> - A square has a perimeter of 20 cm . What is the area of this square? <br> - The area of a circle is <br> 49п. What is the circumference of this circle? <br> - Can you think of another mathematical name for a circular prism? | - Calculate the area of a triangle, parallelogram, trapezium and kite. | - Calculate the area and perimeter of compound shapes. <br> -Calculate the area and circumference of a circle. <br> -Calculate the surface area of prisms. | - Solve problems involving area and perimeter. |
| Iopic: Calculations and <br> Accuracy <br> Big Questions <br> - Estimate the answer to a question. Is your answer an over/under estimate? <br> - What do you think is a suitable degree of accuracy to round to? Why? <br> - Why might it ne useful to work out an error interval? | - Understand and apply the correct order of operations (BIDMAS). <br> - Use a calculator for complex calculations. <br> -understand and use the four rues of negative numbers. <br> - Round to a given number of significant figures. <br> - Estimate answers to calculations. <br> - Use place value to calculate changes to calculations. | - Introduction to upper and lower bounds. | - Use inequality notation to specify error intervals due to rounding. |
| Iopic: Fractions, decimals and percentages <br> Big Questions <br> - What happens when you divide by a half? <br> - Can you write $3 / 16$ as the sum of unit fractions? (Egyptian fractions) <br> - A sale says $20 \%$ off. A top in the sale costs $£ 40$. Was the original price of the top £48? Why not? | -Adding \& subtracting decimals <br> - Introduction to fractions (with shape) <br> - Express on quantity as a fraction of another. <br> - Find equivalent fractions. <br> - Simplify fractions. <br> - Calculate percentages of quantities. <br> - Convert between improper \& mixed fractions. <br> - Multiply and divide fractions. | - Multiply and divide decimals. <br> - Find a fraction of an amount. <br> - Express one quantity of another as a percentage. (With Calculator). <br> -Find a percentage of an amount (Non - calc). <br> -Increase/decrease an amount by a given percent. (Non-calc) <br> - Compare \& order fractions. <br> - Add and subtract fractions | -Calculate with mixed numbers. <br> - Compare fractions, decimals and percentages. <br> -Express one quantity of another as a percentage. (Non-Calculator). <br> - Find percentage multipliers. <br> -Find a percentage of an amount using multipliers (Calc) <br> - Increase/decrease a quantity by a given percentage using multipliers. (Calc) <br> -Calculate simple interest. |


Knowledge Recall
Date Due


## Section A:Number

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3. Increase $£ 40$ by $20 \%$
4. Decrease $£ 60$ by $20 \%$
5. Write $7: 21$ in form $1: n$

8. If $25 \times 68=1700$

$$
\frac{t}{\varepsilon}+\frac{s}{t}: \neq n o \text { y. } 10 M
$$

$$
\text { 10. Work out: } 5 \times \frac{5}{6}
$$

 You can also use the bus stop method of division to find answers

To convert decimals to
percentages, multiply by 100 .
For example, $0.36=36 \%$

$$
0.5=50 \%
$$

Do the inverse (divide) to convert
percentages to decimals



Fraction - written in the form $\frac{a}{b}$, means "a divided by b".

Numerator - the top number of a fraction, represent the number of parts being studied

Denominator - the bottom number of a
fraction, represents the number of parts to make one whole

Equivalent - worth the same amount as
Simplify - reducing a fraction to the equiv with the lowest possible numerator and denominator

Decimal - a number that is not an integer
Integer - a whole number with denominator 1 Percentage - written as a number out of 100 COMPARING \& ORDERING
DECIMALS

STEP 1: Stack the numbers STEP 2: Add zeros so that SIEP 1. Stack the numbers each number hos the same
being compared tine up
The $\begin{array}{ll}4.8 & 4.800 \\ 4.826 & 4.826 \\ 4.08 & 4.080 \\ 4.006 & 4.006\end{array}$ $\begin{array}{ll}4.8 & 4.800 \\ 4.826 & 4.826 \\ 4.08 & 4.080 \\ 4.006 & 4.006\end{array}$ $\begin{array}{ll}4.8 & 4.800 \\ 4.826 & 4.826 \\ 4.08 & 4.080 \\ 4.006 & 4.006\end{array}$ $\begin{array}{ll}4.8 & 4.800 \\ 4.826 & 4.826 \\ 4.08 & 4.080 \\ 4.006 & 4.006\end{array}$ STEP 3: Compare each place
$\begin{aligned} & \text { STEP 4: Order the numbers } \\ & \text { value one by one. If a } \\ & \text { from least to greatest or }\end{aligned}$
n er

 | to the next place | They are ordered from |
| :---: | :--- |
| $\downarrow \downarrow \downarrow \downarrow$ | least to greatest | 4.4 .006 least to greatest $978^{\circ} \mathrm{h} 008^{\prime} \mathrm{h}^{\prime} 080^{\prime} \mathrm{h}^{\prime} 900^{\prime} \mathrm{h}$ Remove the zeros you 4.006. 4.08. 4.8. 4.826

教 fraction
 1/100 (Hundredths)
1 L
What Percentage is this?
If a student received $\frac{28}{50}$ what percentage is this?

If a student received $\frac{28}{50}$
Change the denominator to 100 by $\times 2$

$$
\frac{56}{100}
$$

If a student received $\frac{26}{40}$ what percentage was this?
ix pure $て \div$ aq OOT of лоұеu!
Sq
$\frac{13 \times 5}{20 \times 5}=\frac{65}{100}$
Fractions to Decimals
If the fraction
If the fraction

which is a power
of 10 , the
decimal can be
found. You could
find an
equivalent
fraction to create
a denominator of
10, 100, 1000
etc.
Knowledge Recall
Date Due
Term 2 HW: 3

## 1E2q 01 2.103S

 20days?

