



# Year 8 - Term 3 - Kemnal Keys



Unit 6: Expressions and Equations	Unit 7: Lines and Angles	Unit 8: Fractions, Decimals, Percentages and Ratios
<ul style="list-style-type: none"> <li>An <b>equation</b> contains an unknown number (a letter) and an '=' sign. <b>Solve</b> an equation means work out the value of the unknown number. The <b>solution</b> is the value of the unknown.</li> <li>In an equation, the <b>expressions</b> on both sides of the equals sign have the same value.</li> </ul>	<ul style="list-style-type: none"> <li>A <b>diagonal</b> is a line that joins two opposite vertices of a shape. When diagonals <b>bisect</b> each other, they cut each other in half. The <b>properties</b> of a shape are <b>facts</b> about its <b>sides, angles, diagonals</b> and <b>symmetry</b>.</li> </ul>	<ul style="list-style-type: none"> <li>A <b>positive mixed number</b> is greater than 1, so the <b>decimal equivalent</b> is greater than 1, and the <b>percentage equivalent</b> is greater than 100%. For example: <math>1\frac{3}{4} = 1.75 = 175\%</math></li> <li>A <b>proportion</b> of a whole can be written as a fraction, decimal or percentage.</li> <li>Sometimes you might need to use a denominator of 1000 when you <b>convert</b> between fractions, decimals and percentages.</li> </ul>
<ul style="list-style-type: none"> <li>You can visualise them on balanced scales.</li> <li>The scales stay balanced if you <b>do the same operation to both sides</b>.</li> <li>You can use the <b>balancing method</b> to solve equations.</li> </ul>	<ul style="list-style-type: none"> <li>The <b>interior</b> angles of a polygon are inside the polygon.</li> <li>The <b>exterior</b> angles of a polygon are outside the polygon.</li> <li>In an <b>irregular</b> polygon sides are <b>not all equal</b> lengths, and <b>angles are not equal</b>.</li> </ul>	<ul style="list-style-type: none"> <li>A <b>terminating decimals</b> ends after a definite number of digits, for example 0.22 or 0.519</li> <li>The line in a fraction means 'divide by'.</li> <li>A <b>recurring decimals</b> contains a digit, or sequence of digits, which <b>repeats</b> itself forever.</li> </ul>
<ul style="list-style-type: none"> <li>A <b>formula</b> shows the relationship between different variables, written as words or letters.</li> </ul>	<ul style="list-style-type: none"> <li>Sum of interior angles of an <math>n</math>-sides polygon = <math>180^\circ(n - 2)</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Multiplying all numbers in a ratio by the same number gives an <b>equivalent ratio</b>.</li> <li>You can use <b>ratios</b> to convert between <b>metric units</b>.</li> </ul>
<ul style="list-style-type: none"> <li>You can use a formula to work out an unknown value by <b>substituting</b> the values that you do know into the formula.</li> </ul>	<ul style="list-style-type: none"> <li>You can solve a problem by writing an equation and solving it.</li> </ul>	<ul style="list-style-type: none"> <li>A <b>proportion</b> compares a part to a whole.</li> <li>You can write a proportion as a fraction, decimal or a percentage.</li> <li>A ratio compares a part with a part.</li> </ul>

# Quiz Time

## Week 1 Quiz

1. What does an equation contain?
2. What does it mean to solve an equation?
3. What method do you use to solve an equation?
4. If you do an operation to one side of an equation, what must you do to the other side?
5. What do we call the unknown number in an equation?

## Week 2 Quiz

1. A \_\_\_\_\_ shows the relationship between different variables.
2. How do you use a formula to work out an unknown variable?
3. An equation has an \_\_\_\_\_ on each side of the equal sign.
4. What is a line that join opposite vertices of a shape called?
5. What are the properties of a shape?

## Week 3 Quiz

1. The \_\_\_\_\_ angles of a polygon are inside the polygon.
2. The \_\_\_\_\_ angles of a polygon are outside the polygon.
3. What is an irregular polygon?
4. What does it mean when diagonals bisect each other?
5. What is the sum of the interior angles of an n-sided polygon?

## Week 4 Quiz

1. If a decimal number is greater than 1, the percentage equivalent is greater than \_\_\_\_\_%
2. What 3 ways can a proportion of a whole can be written?
3. What denominator might you need to convert fractions to decimals?
4. What contains an unknown number and an "=" sign?
5. What does the line in a fraction mean?

## Week 5 Quiz

1. What is a terminating decimal?
2. What is a recurring decimal?
3. How do you get an equivalent ratio?
4. A \_\_\_\_\_ compares a part to a whole.
5. A \_\_\_\_\_ compares a part to a part.

## Week 6 Quiz

1. What can you use to convert between metric units?
2. What is the solution of an equation?
3. If a positive mixed number is greater than 1, the percentage equivalent is greater than \_\_\_\_\_%
4. What is an irregular polygon?
5. What is the sum of the interior angles of an n-sided polygon?