Foundation Maths Circles and Equations Year 10 Autumn 2

Bluecoat Wollaton
believe in yourself, in others, in God

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Circumference	The distance around the outside of a circle
Radius	The distance from the centre of a circle to its circumference
Diameter	A straight line passing through the centre of a circle from one side to the other
Tangent	A straight line touching a curve at a single point
Chord	A straight line joining two points on the circumference of a circle
Arc	A piece of a circumference
Sector	A slice of a circle, the outside lines are two radii and an arc
Coefficient	A number multiplied by a variable (letter) in Algebra
Tier 2 Vocabulary	**Definition**
Simultaneous	At the same time
Substitution	Putting one thing in place of another
Eliminate	To remove or get rid of something
Intersection	The place where two or more objects meet

Section B: Key Facts and Processes

Solving Simultaneous Equations *(see section C for example)*	1. Change one or both of the equations so that the coefficients of one of the letters is the same. 2. Add or subtract the equations to eliminate this letter 3. Solve your new equation to find the value of the remaining letter 4. Substitute your answer into the original equations 5. Solve to find the other letter
Circle Formulas	
Area	πr^2
Circumference	πd
Sector Area	$\frac{\theta}{360} \times \pi r^2$
Arc Length	$\frac{\theta}{360} \times \pi d$

Section C: Support

Solving Simultaneous Equations *(example)*

$2x + y = 7 \qquad 3x + 2y = 12$

1. Multiply first equation by 2

$4x + 2y = 14$

2. and 3. Takeaway the second equation to leave the value of x

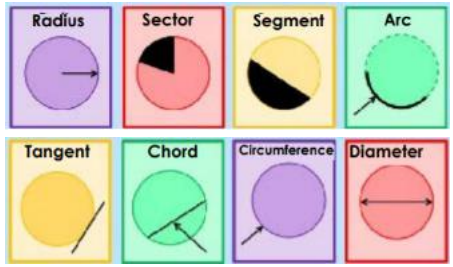
$$\begin{array}{r} 4x + 2y = 14 \\ -\ 3x + 2y = 12 \end{array} \quad = \quad x = 2$$

4. Substitute x = 2 into both of the original equations

$2(2) + y = 7 \rightarrow 4 + y = 7$
$3(2) + 2y = 12 \rightarrow 6 + 2y = 12$

5. Solve the first equation by subtracting 4 (the value of 2x) from both sides to find y. Check this by solving the second equation

$x = 2$
$y = 3$



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Topic	Videos
Simultaneous Equations	190-195, 246
Arc Length and Sector Area	544-547