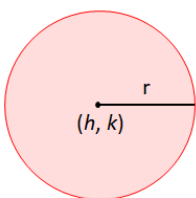


Key Language

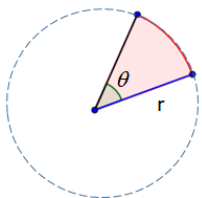
1	Inequality	Used to compare the sizes of various quantities/expressions
2	Quadratic	An expression where the highest power of a variable is 2 (i.e. x^2)
3	Formula	A rule or fact written with mathematical symbols
4	Subject	The single variable that everything else is equal to
5	Factorise	Finding what to multiply to get an expression (re-write with brackets)
6	Quadratic Graph	Produces a 'U' shape graph, called a parabola
7	Gradient	The steepness of a line
8	Cubic	An expression where the highest power of a variable is 3 (i.e. x^3)
9	Reciprocal	The reciprocal of a number is 1 divided by the number
10	Surface Area	Area of all the surfaces on a 3D shape
11	Volume	How much space a 3D shape takes up
12	Tangent	A line that touches a curve (or circle) at a point
13	Arc	Part of the circumference of a circle
14	Sector	An area in a circle enclosed by two radii and an arc (like a section from a pie chart)
15	Chord	A line connecting two points on a curve (not going through the centre of the circle)
16	Segment	An area in a circle enclosed by a chord and an arc

Formulae to Learn

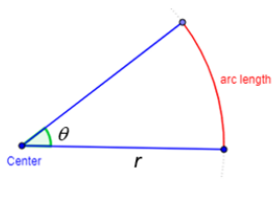
Circle Formulas



area of circle = πr^2
 circumference = $2\pi r$

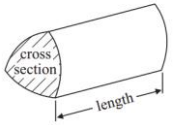



If θ is measured in degrees then
 area of sector = $\frac{\theta}{360^\circ} \times \pi r^2$



If θ is measured in degrees then
 arc length = $\frac{\theta}{360^\circ} \times 2\pi r$

Volume of prism = area of cross section \times length







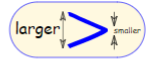
More to Learn

Inequalities on a number line:

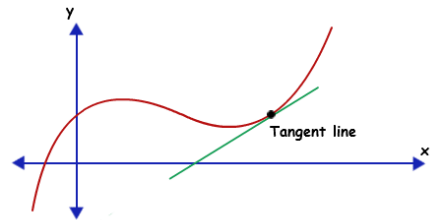
Symbol	Words	Example
$>$	Greater than	
$<$	Less than	
\geq	Greater than or equal to	
\leq	Less than or equal to	

Equality and Inequality

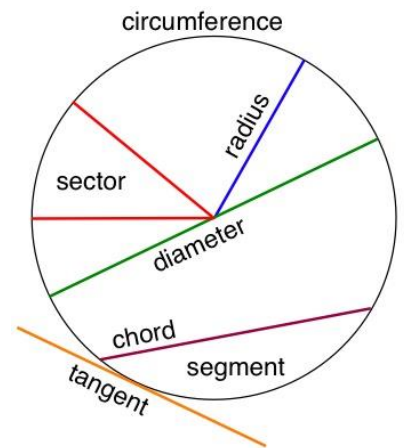
$=$ equal
 \neq not equal
 $>$ greater than
 $<$ less than
 \geq greater than or equal
 \leq less than or equal



Tangent to a curve:



Notes Section:



ORDER OF OPERATIONS

G	GROUPING SYMBOLS () { } []
E	EXPONENTS 3^2 x^2 10^5
M	MULTIPLICATION OR DIVISION GO FROM LEFT TO RIGHT
S	SUBTRACTION OR ADDITION GO FROM LEFT TO RIGHT



PRACTICE QUESTIONS

1. What are the signs used to compare the sizes of quantities?
2. What type of expression is $x^2 + 3x + 4$?
3. What is the highest power on a variable in a cubic expression?
4. What do we call a rule or fact written with mathematical symbols?
5. What's the missing word in this definition of subject: the single _____ that everything else is equal to.
6. What type of graph has a 'U' shape?
7. What do we call the 'U'?
8. What word describes the steepness of graph/line?
9. 1 divided by a number represents the _____ of the original number?
10. The total area of all the faces on a 3D shape is called what?
11. What does volume represent?
12. What line touches a curve once?
13. What do we call a part of the circumference of a circle?
14. What area is enclosed by two radii and an arc?
15. What area is enclosed by a chord and an arc?
16. What line connects two points on a curve?
17. What is the formula for the area of a circle?
18. What is the formula for the area of a sector?
19. What is the formula for the arc length?
20. What is the formula for the volume of a prism?
21. What inequality sign is represented by a filled in circle?

ANSWERS

- | | |
|-------------------------------|------------------------------------|
| 1. Inequalities | 12. Tangent |
| 2. Quadratic | 13. Arc |
| 3. 3 | 14. Sector |
| 4. Formula | 15. Segment |
| 5. Variable | 16. Chord |
| 6. Quadratic | 17. πr^2 |
| 7. A parabola | 18. $\frac{\theta}{360} \pi r^2$ |
| 8. Gradient | 19. $\frac{\theta}{360} 2\pi r$ |
| 9. Reciprocal | 20. Area of cross-section x length |
| 10. Surface Area | 21. An 'equal to' one |
| 11. Space a 3D shape takes up | |