2021 Grade 11 ATP

TERM 1

CAPS

Topics

Topics

/Concepts, Skills and Values

SBA

#### Week 1 Week 2 Week 3 Week 5 Week 6 Week 7 Week 8 Week 9 Week 4 Exponents and surds Equations and inequalities Nature of roots Logarithms • Explore the nature of Demonstrate an understanding of the 1. Apply the laws of exponents to expressions Solve • definition of a logarithm and any laws involving rational exponents. 1. quadratic equations (by factorisation and by needed to solve real life problems roots 2. Add, subtract, multiply and divide simple surds using the quadratic formula); through the 2. equations in two unknowns, one of which is linear and the other quadratic algebraically or value of $b^2 - 4ac$ graphically.

Investigation or project

## 2021 ATP: Grade 11 – Term 1: TECHNICAL MATHEMATICS



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	Week 10								
	Analytical Geometry								
	<ul> <li>Use a Cartesian co-ordinate system to determine: <ul> <li>the equation of a line through two given points;</li> <li>the equation of a line through one point and parallel or perpendicular to a given line; and</li> </ul> </li> <li>the angle of inclination of a line.</li> </ul>								
Те	Test								

# 2021 ATP: Grade 11 – Term 2: TECHNICAL MATHEMATICS

TERM 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	
CAPS Topics	Analytical Geometry (continuation) • Use a Cartesian co-ordinate	1. Revise	Funct e the effect of the par	ions and graphs	the graphs.	Accept results establ	Euclidean Geometry	Trigonometry 1. Revise the trig ratios in the solving of			
	<ul> <li>bise a contestance oralitate system to determine:</li> <li>the equation of a line through one point and parallel or perpendicular to a given line; and the angle of inclination of a line.</li> </ul>	Invest by: 1.1. 2 1.2. 2 1.3. 2	Figate the effect of $p$ of $y = f(x) = a(x + p)^2$ $y = f(x) = ax^2 + bx + q$ $y = \frac{a}{x} + q$ $y = a.f(x) = a.b^x + q$ $\frac{y^2 = r^2}{x^2 - x^2}$	fon the graphs of the $r + q$ + $c$	• •	<ul> <li>that a tangent to a cithe point of contact. Then investigate</li> <li>circles:</li> <li>The line drawn frichord bisects the</li> <li>The perpendiculation centre of the circle</li> <li>The angle subtend double the size of circle (on the same)</li> <li>Angles subtended the chord, are equivalent angle;</li> <li>Two tangents dratthe circle are equivalent angle between</li> <li>The angle between</li> </ul>	ircle is perpendicular to and apply the theorem rom the centre of a circ e chord; ar bisector of a chord p ele; ided by an arc at the ce of the angle subtended in side of the chord as d by a chord of the circ gual; gles of a cyclic quadrilar cyclic quad. is equal to awn to a circle from the ual in length; dicular to the tangent; en the tangent to a circ point of contact is equal	o the radius, drawn to as of the geometry of cle perpendicular to a asses through the entre of a circle is by the same arc at the the centre); cle, on the same side of teral are opposite interior e same point outside and cle and the chord	right-angle triangle in a (Grade 10). 2. Apply the sine, cosi 3. Solve problems in the using the sine, cosine 4. Draw the graphs of defined by: $y = k \sin x$ , $y = k \cos x$ , $y = \sin (kx)$ , and $y = \cos (kx)$ .	all 4 quadrants ne and area rules. wo dimensions and area rules	
SBA	Assignment					Test					



2021 Grade 11 ATP

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TERM 3	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	W				
CAPS Topics	Trigo	onometry		Circles, angles and a	Finance, gr								
	defined by $y = sin(x + p)$ and y	sine and cosine curve. quations.	<ul> <li>Angles and a</li> <li>Degrees and</li> <li>Sectors and s</li> <li>Angular and a</li> </ul>	radians	ity.		Use simple and compound growth/decay formulae $A = P(1 \pm in)$ and $A = P(1 \pm i)^n$ to solve problems (including interest, hire purchase, inflation, population growth and other real life problems). The effect of different periods of compounding growth and decay (including effective and nominal interest rates).		Solve p sol studied ob to form 1. Surfa pyramic spheres 2. The e any dim by facto 3. Deten ordinate				
SBA	Test								Tes				

## 2021 ATP: Grade 11 – Term 3: TECHNICAL MATHEMATICS

## 2021 ATP: Term 4: TECHNICAL MATHEMATICS GRADE 11

TERM 4	Week 1       Week 2       Week 3       Week 4       Week 5       Week 6       Week 7       Week 8       Week 9       Week 10       EXAM										
	I		1	Final E	Examination	1					
SBA	Test (on revised content)								Paper 13 hoursAlgebraic expressions, equations, inequalities and nature of roots Functions and graphsFinance, growth and decayTOTAL MARKPaper 23 hoursEuclidean Geometry	90 45 15 <b>150</b> 40	
FOTAL NUMBER OF SBA TASKS 7 Ferm 1 Investigation / Project (15%) and Test (10%), Ferm 2 Assignment (15%) and Test (10%)										Analytical Geometry Trigonometry Mensuration, Circles, angles and angular movement	25 50 35
erm 3 Test (10 %) and Te erm 4 Final Examination						TOTAL MARK	150				



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Neek 9	Week 10									
	Mensuration									
problems ir olids	problems involving volume and surface area of lids									
ed in earlier bjects	ed in earlier grades and combinations of those pjects									
m more com	plex shaped solids.									
face area and iids, cones and	volume of right prisms, cylinders, d									
es, and combinations of these geometric objects. effect on volume and surface area when multiplying mension for k.										
ermine the area of an irregular figure using mid- te rule.										
st										