

STUDENT EDUCATION NUMBER										

Samoa Secondary Leaving Certificate

MATHEMATICS 2022

QUESTION and ANSWER BOOKLET

Time allowed: 3 Hours & 10 minutes

INSTRUCTIONS

- 1. You have 10 minutes to read **before** you start the exam.
- 2. Write your **Student Education Number (SEN)** in the space provided on the top right hand corner of this page.
- 3. Answer ALL QUESTIONS. Write your answers in the spaces provided in this booklet.
- 4. If you need more paper to write your answers, ask the Supervisor for extra paper. Write your SEN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.
- 5. All the formulas required are provided on pages 21 & 22.

CUR	RICULUM STRANDS	Pages	Time (min)	Weighting
STRAND 1	ALGEBRA	2-4	32	18
STRAND 2	CO-ORDINATE GEOMETRY	5-7	25	14
STRAND 3	GRAPHS & FUNCTIONS	8-10	25	14
STRAND 4	SEQUENCES & SERIES	11	12	6
STRAND 6	PROBABILITY	12-14	25	14
STRAND 7	CALCULUS	15-17	36	20
STRAND 8	TRIGONOMETRY	18-20	25	14
	TOTAL	180	100	

Check that this booklet contains pages 2-24 in the correct order and that none of these pages are blank. HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

STRAND 1:

For Questions 1 – 2, choose the BEST answer and write the correct letter in the box provided.

- 1. Which of the following is a quadratic equation?
 - A. $y = x(x^2 3)$
 - B. $y = x^3 3x$
 - C. y = 3x 3
 - D. $y = 3(x^2 x)$
- 2. The graph shown on the right could be that of:
 - A. $y = x^2(x+2)$
 - B. $y = (x + 2)^3$
 - C. $y = (x 2)(x + 2)^2$
 - D. y = x(x-2)(x+2)
- 3. Simplify the expression $\frac{81f^{15} \times 25g^{12} \times 16h^{34}}{27f^9 \times 15g^{10} \times 12h^{30}}$

SL 2

2







4. The height of a plant can be found using the equation

$$h = \frac{2(3t+15)}{3}$$
 , where *h* is the

height in cm and t is time in weeks.

Determine the time the plant takes to grow to 30 cm in height.





5. The quadratic function $y = x^2 + x - 2$ and the line y = 3x + 1 intersect at two points. Find the coordinates of the two points of intersections.

6. Simplify $\frac{9x+3}{3x+1}$





7. Solve for *x* in $3^{2x} \times 3^{1-x} = 27$



8. A newly discovered colony of bees contains 2.05×10^8 bees. If 0.4% of these bees are estimated to be queen bees, calculate how many queen bees live in the colony.



STRAND 2:

CO-ORDINATE GEOMETRY

For Question 9, choose the BEST answer and write the correct letter in the box provided.

9. If two lines are parallel, then:

- A. they have the same gradient.
- B. the product of their gradients is 0.
- C. the sum of their gradients is 1.
- D. the product of their gradients is -1.
- 10. Find the equation of the line perpendicular to y = 2x 3.

^{11.} If the point $\left(1, \frac{-15}{4}\right)$ lies on the line = mx + 3, find the gradient m of the line.

SL 1



SL 2	

12. A motorist departs from town B, which is 8 km due south from another town, A, and drives due east towards town C, which is 20 km from B. After driving a distance of x km (at spot D), he notices that he is the same distance away from both towns A and C.



Find *x*, the distance he has driven from B.

13. The attendance at a school concert was 420 people and the school collected \$3840. Admission tickets cost \$13 for each adult and \$4 for each child. This information is represented by the equations below:

a + c = 420	a=number of adult tickets
13a + 4c = 3840	c=number of child tickets

How many of each type of ticket were sold?



6

14. A circle has the equation $(x^2 - 4x) + (y^2 + 8y) = 5$. Express this equation in the standard form $(x - h)^2 + (y - k)^2 = r^2$.

STRAND 3:

For Questions 15 – 16, choose the BEST answer and write the correct letter in the box provided.

- The limit of the function $f(x) = x^2 3x + 2$ as x approaches 0 would be: 15.
 - Α. -2
 - 2 Β.
 - C. 0
 - D. -3
- 16. Which of the following equations best illustrate the given graph?
 - A. $y = x^2 4$ B. $y = \sqrt{x}$ C. $y = (x - 2)^3$ -3 - 2 - 1 -1^{1} -1^{1} 2 - 3 - xD. $y = \frac{1}{x}$
- Suppose the basic quadratic function $y = x^2$ is being translated and is now 17. $y = x^2 - 3$. On the same Cartesian plane, draw the graphs of the two functions to show how the translation moved the function $y = x^2$







18. Find the equation for the inverse function of $y = \frac{1}{2}x + 1$.

SL 2

19. Draw a graph of $y = 2x^3 - 11x^2 + 7x + 20$ showing all intercepts. Hint: (x+1) is one factor of this function.



20. The height of a triangle is 5 cm more than its base length. If the area of the triangle is $18 \ cm^2$, find the base length and height.

STRAND 4:

SEQUENCES AND SERIES

For Question 21, choose the BEST answer and write the correct letter in the box provided.

- 21. Amosa is saving money and aims to increase the amount of money he deposits in his savings account by \$40 each month. The first month he starts with a deposit of \$100. For this arithmetic sequence, the values of the first term, A_1 and the common difference, d would be:
 - A. $A_1 = 40, \quad d = 100$
 - B. $A_1 = 100, d = 40$
 - C. $A_1 = 140, \ d = 0$
 - D. $A_1 = 0, d = 140$
- 22. Sione has a 4000 word assignment to write. He begins his assignment on the 3rd of July and writes 175 words. Each day he writes 75 words more than he did the previous day.

How many words will he write on the 6th July?

- 23. The sum of the first *n* terms of a geometric series is $\frac{8(1-0.2^n)}{0.8}$ = 9.99936.
- How many terms are being added?





SL 2

For Questions 24 – 25, choose the BEST answer and write the correct letter in the box provided.

In an experiment, a six-sided die is rolled and a coin is tossed, at the same time.

- 24. One example of an event from this experiment would be:
 - A. Head and Tail.
 - B. 3 and 6.
 - C. Head and 2.
 - D. Tail and 7.
- 25. The probability of getting a tail and an odd number would be:
 - A. $\frac{1}{4}$ B. $\frac{3}{6}$
 - C. $\frac{1}{12}$
 - D. $\frac{1}{2}$
- 26. One student is selected at random from each of Years 7, 8 and 9 to join a staff meeting. There are 148 girls and 114 boys in Year 7, 126 girls and 97 boys in Year 8, and 115 girls and 122 boys in Year 9.

Find the probability that all students chosen are boys. Give your answer in 3 decimal places.









27. A box of chocolates contains milk chocolates and dark chocolates. The probability of selecting a dark chocolate from a full box is $\frac{1}{6}$. Once a dark chocolate has been taken from the box, the chance of selecting a second dark chocolate drops to $\frac{1}{7}$.

Calculate how many chocolates are in the box altogether.

SL 3

28. The heights of the women in a particular town are normally distributed with a mean of 165 cm and a standard deviation of 9 cm.

What is the approximate probability that a woman chosen at random has a height which is between 156 cm and 174 cm?



29. Packages of butter with a stated weight of 500 grams have an actual weight of W grams, which is normally distributed with a mean of 508 grams.

If the probability that a package weighs less than 500 grams is not to exceed 0.01, find the maximum allowable standard deviation of W. (Round to 2 decimal places)



STRAND 7:

For Questions 30 – 32, choose the BEST answer and write the correct letter in the box provided.

CALCULUS

Refer to the function f(x) below to answer Questions 30 - 32 below:

 $f(x) = x^3 - 3x + 3$

- The derivative f'(x) for the function f(x) must be equal to: 30.
 - $3x^2 3x$ A.
 - $3x^2$ Β.
 - C. $x^3 - 3$
 - $3x^2 3$ D.

31. The gradient of f(x) at the point where $\mathbf{x} = \mathbf{1}$ would be:

- Α. 0
- Β. 1
- C. 2
- D. 3
- When x=1, what would be the value of y? 32.
 - Α. 0
 - Β. 1
 - C. 2
 - D. 3
- 33. Determine the gradient of the tangent to the curve, at the point where x = 1.



- SL 1
 - SL 1









Refer to the function f(x) below to answer Questions 34 and 35.

$$f(x) = x^2 + 6x - 8$$

34. Find the equation of the tangent to the curve $f(x) = x^2 + 6x - 8$ at the point where its gradient f'(x) has a value of 8.



35. Find the gradient of the normal to the tangent in Question 34.

SL 2

36. The volume of water, V litres, in a family's water tank t minutes after the shower is turned on is given by the rule $V = 200 - 1.2t^2 + 0.08t^3$, where $0 \le t \le 15$ Find the minimum volume of the family's water tank.

SL 4	

Refer to the function f(x) below to answer Questions 37 - 38.

$$f(x) = 6x + x^2 - x^3$$

37. Sketch the function $f(x) = 6x + x^2 - x^3$ and mark clearly the area bound by the curve and the x-axis from x = -2 to x = 3.



38. Find an approximation for the area bound by the curve and the x-axis from x=0 to x=3 only.



STRAND 8:

For Questions 39 – 41, choose the BEST answer and write the correct letter in the box provided.

- According to common trigonometric identities, Sin^2x is equal to: 39.
 - $Cos^2 x$ A.
 - Tan^2x Β.
 - $1 Cos^2 x$ C.
 - $1 + Cos^2 x$ D.

When using the rule $a^2 = b^2 + c^2 - 2bcCosA$, the value of x in the below triangle, 40. correct to one decimal place, would be:

- Α. 10.2m
- Β. 11.5m
- C. 12.1m
- D. 13.4m
- $\frac{\pi}{3}$ radian is equivalent to: 41.
 - Α. 30⁰
 - 45⁰ Β.
 - C. 60⁰
 - 120⁰ D.
- 42. A tree 5 metres tall casts a shadow so that the angle of elevation from the end of the shadow to the top of the tree is 35°. How long is the shadow?













SL 1

SL 1

TRIGONOMETRY

43. Determine length of the arc in the figure at right, correct to 1 decimal place. $Arc \ Length, l = \frac{\theta}{360} \times 2\pi r$



SL 2	

A searchlight lights up the ground to a distance of 240 m.
 What area does the searchlight illuminate if it can swing through an angle of 120°, as shown in the diagram at right? (Give your answer correct to 1 decimal place.)



45. Prove that $\tan \theta \sin \theta + \cos \theta = \sec \theta$

SSLC MATHEMATICS FORMULAS

MEASUREMENTS (Perimeter, Area, Volume)	SEQUENCES & SERIES
Rectangle Area = lw Perimeter= $2l + 2w$	Arithmetic: $a + (a + d) + (a + 2d) + (a + 3d) \dots$
Triangle : Area = $\frac{1}{2}bh$	$t_n = a + (n-1)d$
Trapezium Area = $\frac{1}{2}(a+b)h$	$S_n = \frac{n}{2}(2a + (n-1)d) = \frac{n}{2}(a+l)$
Circle: Area = πr^2 Circumference = $2\pi r$	Geometric: $a + ar + ar^2 + ar^3 + \cdots$
Arc Length, $l = \frac{\theta}{360} 2\pi r$	$t_n = ar^{n-1}$
Sector Area $=\frac{\theta}{360}\pi r^2$	$S_n = \frac{a(1-r^n)}{1-r} \cdot r \neq 1$
Sphere Area = $4\pi r^2$ Volume = $\frac{4}{3}\pi r^3$	$S_{\infty} = \frac{a}{1-r} \cdot for r < 1$
Cone Curved Area = $\pi r l$ Volume = $\frac{1}{3}Ah$	Sigma : $\sum_{1}^{n} t_n = t_1 + t_2 + t_n$
ALGEBRA	COORDINATE GEOMETRY
Quadratics if $ax^2 + bx + c = 0$ then	
$-b\pm\sqrt{b^2-4ac}$	Lines $y = mx + c$
$x = \frac{1}{2a}$	
Exponents $a^m \cdot a^n = a^{m+n}$	$y - y_1 = m(x - x_1)$
am	Distance $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$
$\frac{a}{a^n} = a^{m-n}$	
$(-m)n - m \times n$	Midpoint $=\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}$
$(a^m)^n \equiv a^{mnn}$	$\sim \gamma_2 - \gamma_1$
$(ab)^m = a^m b^m$	Gradient $m = \frac{y_2 - y_1}{x_2 - x_1}$
$a^0 = 1$, $(a \neq 0)$	
Logarithms	
$if \ y = b^x \ then \ \log_h y = x$	
$\log_h x + \log_h y = \log_h xy$	
$\log_h x - \log_h y = \log_h \frac{x}{y}$	STATISTICS
$\log_a x = \frac{\log_b x}{\log_b a}$	z-score: $z = \frac{x - \overline{x}}{s}$
$\log_h x^n = n \log_h x$	

TRIGONOMETRY DIFFERENTIAL CALCULUS $a^2 + b^2 = c^2$ Pythagoras Theorem **First Principle Sine Rule** $\frac{a}{SinA} = \frac{b}{SinB} = \frac{c}{SinC}$ $f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}, h \neq 0,$ Area = $\frac{1}{2}bc\sin A$ **By Rule Cosine Rule** $a^2 = b^2 + c^2 - 2bcCosA$ If $f(x) = x^n$, then $f'(x) = nx^{n-1}$. Identities If $f(x) = ax^n$, then $f'(x) = nax^{n-1}$. $\cos^2\theta + \sin^2\theta = 1$ If f(x) = c, then f'(x) = 0 (where *c* is constant). If f(x) = g(x) + h(x), then f'(x) = g'(x) + h'(x). $\sec \theta = \frac{1}{\cos \theta}$ *Tangent gradient,* m = f'(x) $\tan\theta = \frac{\sin\theta}{\cos\theta}$ Normal gradient = $-\frac{1}{m}$ $\cot\theta = \frac{1}{\tan\theta} = \frac{\cos\theta}{\sin\theta}$ **INTEGRAL CALCULUS** $\int x^n dx = \frac{1}{n+1} x^{n+1} + c, \ n \neq -1$ $\int (ax+b)^n dx = \frac{1}{a(n+1)} (ax+b)^{n+1} + c, n \neq -1$

Normal distribution

Each entry gives the probability that the standardised normal random variable, Z, lies between 0 and z, shaded in the diagram.



1 0.00 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 1 2 3 4 5 6 7 8 0.0 0.000 0.040 0.080 0.020 0.075 0.071 0.074 4 8 12 16 20 24 28 32 0.0 0.000 0.043 0.077 0.057 0.071 0.074 4 8 12 15 22 27 31 0.3 1.179 1.217 1.258 1.291 1.251 1.293 1.331 1.368 1.406 1.480 1.517 4 8 12 15 1.915 1.958 1.621 1.203 1.212 1.218 1.21 1.2 <th>_</th> <th></th> <th>Diffe</th> <th>eren</th> <th>ces</th> <th></th> <th></th> <th></th>	_														Diffe	eren	ces			
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1.0 3.413 3.438 3.461 3.485 3.508 3.531 3.554 3.577 3.599 3.621 2 5 7 9 12 14 16 18 1.1 3.643 3.665 3.686 3.708 3.729 3.749 3.770 3.790 3.810 3.830 2 4 6 8 10 12 14 16 1.2 3.849 3.869 3.888 3.907 3.925 3.944 3.962 3.980 3.997 4.015 2 4 5 6 8 10 11 13 1.4 4192 4.407 4.227 4.226 4.251 4.255 4.525 4.535 4.545 1 2 3 4 5 6 7 8 10 11 14 4.452 4.443 4.455 4.555 4.555 4.555 4.554 1.57 1 1 2 3 4 4 5 6 7 8 17 4.554 4.573 4.582 4.591 4.555	0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389	3	5	8	10	13	15	18	20	23
1.1 .3643 .3665 .3686 .3708 .3729 .3749 .3770 .3790 .3810 .3830 2 4 6 8 10 12 14 16 1.2 .3849 .3869 .3888 .3907 .3925 .3944 .3962 .3980 .3997 .4015 2 4 5 7 9 11 13 15 1.3 .4032 .4049 .4066 .4082 .4099 .4115 .4131 .4147 .4162 .4177 2 3 5 6 8 10 11 13 1.4 .4192 .4207 .4222 .4265 .4279 .4292 .4306 .4319 1 2 3 4 6 7 8 10 11 1.5 .4332 .4454 .4453 .455 .4551 .4525 .4535 .4545 1 2 3 4 5 6 7 8 10 11 1 2 2 3 3 4 5 6	1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621	2	5	7	9	12	14	16	18	21
1.1.2 .3849 .3869 .3888 .3907 .3925 .3944 .3962 .3980 .3997 .4015 2 4 5 6 8 10 11 13 15 1.3 .4032 .4049 .4066 .4082 .4099 .4115 .4131 .4147 .4162 .4177 2 3 5 6 8 10 11 13 13 15 1.4 .4192 .4207 .4222 .4236 .4251 .4265 .4279 .4292 .4306 .4319 1 3 4 6 7 8 10 11 13 15 1.6 .4452 .4463 .4474 .4484 .4495 .4505 .4515 .4525 .4535 .4545 1 2 3 4 4 5 6 .7 8 10 1.6 .4454 .4564 .4564 .4664 .4671 .4676 .4672 .4633 1 2 2 3 4 4 5 6 .7 8<	1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830	2	4	6	8	10	12	14	16	19
1.3 4032 4049 4066 4082 4099 4115 4131 4147 4162 4177 2 3 5 6 7 8 10 11 1.4 4192 4207 4222 4236 4251 4265 4279 4292 4306 4319 1 3 4 6 7 8 10 11 1.5 4332 4345 4357 4370 4382 4394 4406 4418 4429 4441 1 2 4 5 6 7 8 10 11 1.6 4452 4463 4477 4484 4495 4555 4535 4535 12 3 4 4 5 6 7 8 10 11 2 3 4 4 5 6 7 8 10 11 1 2 3 4 4 5 6 7 8 1	1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015	2	4	5	7	9	11	13	15	16
1.4 4192 4207 4222 4236 4251 4265 4279 4292 4306 4319 1 3 4 6 7 8 10 11 1.5 4332 4345 4357 4370 4382 4394 4406 4418 4429 4441 1 2 4 5 6 7 8 10 11 1.6 4452 4463 4474 4484 4495 4505 4515 4525 4535 4545 1 2 3 4 5 6 7 8 10 1.6 4454 4456 4573 4582 4591 4599 4608 4616 4625 4633 1 2 3 4 4 5 6 7 8 10 1 1 2 3 4 4 5 6 7 8 10 1 1 2 3 4 4 5 6 7 8 10 1 1 2 2 3 3<	1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177	2	3	5	6	8	10	11	13	10
1.5 4.332 4.345 4.357 4.370 4.382 4.394 4.406 4.418 4.429 4.441 1 2 4 5 6 7 8 1 1.6 .4452 .4463 .4474 .4484 .4495 .4505 .4515 .4525 .4535 .4545 1 2 3 4 5 6 7 8 1.7 .4354 .4564 .4573 .4582 .4591 .4599 .4608 .4616 .4625 .4633 1 2 3 4 4 5 6 7 1.8 .4641 .4649 .4656 .4664 .4671 .4678 .4766 .4761 .4767 1 1 2 2 3 3 4 4 5 6 7 2.0 .4772 .4778 .4783 .4788 .4879 .4881 .4887 .4887 .4817 .4167 1 1 2 2 2 3 3 4 2 2 2 3 3 <td< td=""><td>1.4</td><td>.4192</td><td>.4207</td><td>.4222</td><td>.4236</td><td>.4251</td><td>.4265</td><td>.4279</td><td>.4292</td><td>.4306</td><td>.4319</td><td>1</td><td>3</td><td>4</td><td>6</td><td>7</td><td>8</td><td>10</td><td>11</td><td>13</td></td<>	1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319	1	3	4	6	7	8	10	11	13
1.6 $.4452$ $.4463$ $.4474$ $.4484$ $.4495$ $.4505$ $.4515$ $.4525$ $.4535$ $.4545$ 123456781.7 $.4954$ $.4564$ $.4573$ $.4582$ $.4591$ $.4599$ $.4608$ $.4616$ $.4625$ $.4633$ 1233445671.8 $.4641$ $.4649$ $.4656$ $.4664$ $.4671$ $.4678$ $.4686$ $.4693$ $.4699$ $.4706$ 1122344561.9 $.4713$ $.4719$ $.4726$ $.4732$ $.4738$ $.4744$ $.4750$ $.4756$ $.4761$ $.4767$ 112233442.0 $.4772$ $.4778$ $.4783$ $.4788$ $.4873$ $.4808$ $.4812$ $.4817$ 0 112223342.1 $.4821$ $.4864$ $.4866$ $.4830$ $.4834$ $.4838$ $.4842$ $.4866$ $.4857$ 0 11122233322233422233442223342223342223334222333422233444	1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	4441	1	2	4	5	6	7	8	10	11
1.7 $.4354$ $.4564$ $.4573$ $.4582$ $.4591$ $.4599$ $.4608$ $.4616$ $.4625$ $.4633$ 1 2 3 4 5 6 7 1.8 $.4641$ $.4649$ $.4656$ $.4664$ $.4671$ $.4678$ $.4668$ $.4663$ $.4699$ $.4706$ 1 1 2 3 4 4 5 6 7 1.9 $.4713$ $.4719$ $.4726$ $.4732$ $.4738$ $.4744$ $.4750$ $.4756$ $.4761$ $.4767$ 1 1 2 2 3 4 4 5 2.0 $.4772$ $.4778$ $.4783$ $.4788$ $.4793$ $.4798$ $.4803$ $.4808$ $.4812$ $.4817$ 0 1 1 2 2 3 3 4 4 5 2.0 $.4772$ $.4778$ $.4783$ $.4788$ $.4873$ $.4881$ $.4887$ $.4857$ 0 1 1 2 2 2 3 3 4 2.1 $.4826$ $.4830$ $.4834$ $.4838$ $.4842$ $.4846$ $.4857$ $.4857$ 0 1 1 1 2 2 2 3 3 4 2.1 $.4826$ $.4836$ $.4871$ $.4875$ $.4878$ $.4887$ $.4897$ $.4897$ 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.6	.4452	.4463	.4474	.4484	*.4495	.4505	.4515	4525	4535	4545	1	2	3	4	5	6	7	20	0
1.84641464946564664467146784686469346994706112344561.94713471947264732473847444750475647614767112234452.04772477847834788479347984803480848124817011223342.14821482648304834483848424846485701112223332.248614864486848714875487848814884488749000111222 <td< td=""><td>1.7</td><td>.4554</td><td>.4564</td><td>.4573</td><td>.4582</td><td>.4591</td><td>.4599</td><td>4608</td><td>4616</td><td>• 4625</td><td>4633</td><td>1</td><td>2</td><td>3</td><td>13</td><td>1</td><td>5</td><td>6</td><td>7</td><td>9</td></td<>	1.7	.4554	.4564	.4573	.4582	.4591	.4599	4608	4616	• 4625	4633	1	2	3	13	1	5	6	7	9
1.9 4713 4719 4726 4732 4738 4744 4750 4756 4767 1 1 2 2 3 4 4 5 2.0 4772 4778 4783 4788 4793 4798 4803 4808 4817 0 1 1 2 2 3 4 4 5 2.0 4772 4778 4783 4788 4793 4798 4803 4808 4817 4817 0 1 1 2 2 3 3 4 2.1 4821 4826 4830 4834 4838 4842 4846 4857 4857 0 1 1 1 2 2 2 3 3 2.2 4861 4864 4868 4871 4878 4881 4884 4887 4890 0 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 4 2.4 4893 4894 4896 4897 4897 4897 4996 0 0 1	1.8	.4641	.4649	.4656	.4664	.4671	.4678	4686	4693	4699	4706	1	1	2	3	т Л	1	5	6	6
2.0 4772 4778 4783 4788 44793 4793 4793 4803 4808 4812 4817 0 1 1 2 2 3 3 4 2.1 4821 4826 4830 4834 4838 4842 4846 4850 4854 4857 0 1 1 2 2 2 3 3 4 2.1 4861 4864 4868 4871 4875 4878 4881 4884 4887 4890 0 1 1 1 2 2 2 3 3 2.3 4893 4896 4888 4901 4904 4906 4909 4911 4913 4916 0 0 1 1 1 1 1 2 2 2 2 2 2 4 4918 4920 4921 4923 4934 4934 4936 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 </td <td>1.9</td> <td>.4713</td> <td>.4719</td> <td>.4726</td> <td>.4732</td> <td>.4738</td> <td>.4744</td> <td>.4750</td> <td>.4756</td> <td>.4761</td> <td>.4767</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> <td>3</td> <td>4</td> <td>4</td> <td>5</td> <td>5</td>	1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767	1	1	2	2	3	4	4	5	5
2.1 .4821 .4826 .4830 .4834 .4838 .4842 .4846 .4850 .4857 0 1 1 2 2 2 2 3 3 2.2 .4861 .4864 .4868 .4871 .4875 .4878 .4881 .4887 .4890 0 1 1 1 2 2 2 3 3 2.3 .4893 .4896 .4898 .4901 .4904 .4906 .4909 .4911 .4913 .4916 0 0 1 1 1 2 2 2 2 2.4 .4918 .4920 .4922 .4927 .4929 .4931 .4932 .4934 .4936 0 0 1	2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	• 4812	4817	0	1	1	2	2	3	3	4	4
2.24861.4864.4868.4871.4875.4878.4881.4884.4887.4890011122232.3.4893.4896.4898.4901.4904.4906.4909.4911.4913.4916001111222222.4.4918.4920.4922.4925.4927.4929.4931.4932.4934.49360011111122222.5.4938.4940.4941.4943.4945.4946.4942.4963.4964000011 <td< td=""><td>2.1</td><td>.4821</td><td>.4826</td><td>.4830</td><td>.4834</td><td>.4838</td><td>.4842</td><td>.4846</td><td>.4850</td><td>.4854</td><td>4857</td><td></td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>3</td><td>3</td><td>1</td></td<>	2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	4857		1	1	2	2	2	3	3	1
2.3.4893.4896.4898.4901.4904.4906.4909.4911.4913.49160011122222.4.4918.4920.4922.4925.4927.4929.4931.4932.4934.4936001111112222.5.4938.4940.4941.4943.4945.4946.4948.4949.4951.4952000111 <td>2.2</td> <td>.4861</td> <td>.4864</td> <td>.4868</td> <td>.4871</td> <td>.4875</td> <td>.4878</td> <td>.4881</td> <td>4884</td> <td>4887</td> <td>4890</td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td>	2.2	.4861	.4864	.4868	.4871	.4875	.4878	.4881	4884	4887	4890		1	1	1	2	2	2	3	3
2.4 4918 4920 4922 4925 4927 4929 4931 4932 4934 4936 0 0 1	2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	4911	4913	4916		0	1	1	1	2	2	2	2
2.5 $.4938$ $.4940$ $.4941$ $.4943$ $.4945$ $.4946$ $.4948$ $.4949$ $.4951$ $.4952$ 0 0 0 1 <	2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936	0	0	1	1	1	1	1	2	2
2.6.4953.4955.4956.4957.4959.4960.4961.4962.4963.49640000111112.7.4965.4966.4967.4968.4969.4970.4971.4972.4973.497400000111112.8.4974.4975.4976.4977.4977.4978.4979.4979.4980.4981000 <td>2.5</td> <td>.4938</td> <td>.4940</td> <td>.4941</td> <td>.4943</td> <td>.4945</td> <td>.4946</td> <td>.4948</td> <td>.4949</td> <td>4951</td> <td>4952</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td>	2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	4951	4952	0	0	0	1	1	1	1	1	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	4963	4964	0	0	0	0	1	1	1	1	1
2.8.4974.4975.4976.4977.4977.4978.4979.4979.4980.498100<	2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	4974	0	0	0	0	0	1	1	1	1
2.9 $.4981$ $.4982$ $.4982$ $.4983$ $.4984$ $.4984$ $.4985$ $.4986$ $.4986$ $.4986$ 0 <td>2.8</td> <td>.4974</td> <td>.4975</td> <td>.4976</td> <td>.4977</td> <td>.4977</td> <td>.4978</td> <td>.4979</td> <td>.4979</td> <td>.4980</td> <td>4981</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td>	2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	4981	0	0	0	0	0	0	0	0	1
3.0 $.4987$ $.4987$ $.4987$ $.4988$ $.4988$ $.4989$ $.4989$ $.4990$ $.4990$ $.4990$ 0 <td>2.9</td> <td>.4981</td> <td>.4982</td> <td>.4982</td> <td>.4983</td> <td>.4984</td> <td>.4984</td> <td>.4985</td> <td>.4985</td> <td>.4986</td> <td>.4986</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td>	2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986	0	0	0	0	0	0	0	0	1
3.1 $.4990$ $.4991$ $.4991$ $.4991$ $.4992$ $.4992$ $.4992$ $.4992$ $.4993$ $.4993$ $.4993$ 0	3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	4990	0	0	0	0	0	0	0	0	0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.1	.4990	.4991	.4991	.4991	.4992	.4992	.4992	.4992	.4993	4993	0	0	0	0	0	0	0	0	0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.2	.4993	.4993	.4994	.4994	.4994	.4994	.4994	.4995	4995	4995	0	0	0	0	0	0	0	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3.3	.4995	.4995	.4995	.4996	.4996	.4996	.4996	.4996	.4996	.4997	0	0	0	0	0	0	0	0	0
3.5 .4998 .4999 .	3.4	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4998	.4998	0	0	0	0	0	0	0	0	0
3.6 .4998 .4999 .4999 .4999 .4999 .4999 .4999 .4999 0	3.5	.4998	.4998	.4998	.4998	.4998	.4998	.4998	.4998	4998	4998	0	0	0	0	0	0	0	0	0
3.7 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .4999	3.6	.4998	.4998	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	0	0	0	0	0	0	0	0	0
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	3.7	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	0	0	0	0	0	0	0	0	0
3.8 .4999 .4999 .4999 .4999 .4999 .4999 .4999 .5000 .5000 .5000 0 0 0 0 0 0 0 0	3.8	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.5000	.5000	.5000	0	0	0	0	0	0	0	0	0
3.9 .5000 .5000 .5000 .5000 .5000 .5000 .5000 .5000 .5000 .5000 .5000 0 0 0	3.9	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	0	0	0	0	0	0	0	0	0

STUDENT EDUCATION NUMBER									

MATHEMATICS

2022

(For Scorers only)

CUR	RICULUM STRANDS	Weighting	Scores	Check Scorer	AED Check
STRAND 1	ALGEBRA	18			
STRAND 2	CO-ORDINATE GEOMETRY	14			
STRAND 3	GRAPHS & FUNCTIONS	14			
STRAND 4	SEQUENCES & SERIES	6			
STRAND 6	PROBABILITY	14			
STRAND 7	CALCULUS	20			
STRAND 8	TRIGONOMETRY	14			
	TOTAL MARKS	100			