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## Samoa Secondary Leaving Certificate

## MATHEMATICS

## 2022

## QUESTION and ANSWER BOOKLET

Time allowed: $\mathbf{3}$ 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 $21 \& 22$.

| CURRICULUM STRANDS |  | Pages | Time <br> $(\mathbf{m i n})$ | 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 |  | $\mathbf{1 8 0}$ | $\mathbf{1 0 0}$ |

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.

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. $y=x\left(x^{2}-3\right)$
B. $y=x^{3}-3 x$
C. $y=3 x-3$

D. $y=3\left(x^{2}-x\right)$
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 $\frac{81 f^{15} \times 25 g^{12} \times 16 h^{34}}{27 f^{9} \times 15 g^{10} \times 12 h^{30}}$
4. The height of a plant can be found using the equation
$h=\frac{2(3 t+15)}{3}$, 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 $y=3 x+1$ intersect at two points. Find the coordinates of the two points of intersections.

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

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


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 $y=2 x-3$.
$\square$
11. If the point $\left(1, \frac{-15}{4}\right)$ lies on the line $=\boldsymbol{m} x+3$, find the gradient $\boldsymbol{m}$ of the line.

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 $x \mathrm{~km}$ (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 $B$.

$\square$
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:

$$
\begin{array}{ll}
a+c=420 & a=n u m b e r ~ o f ~ a d u l t ~ t i c k e t s ~ \\
13 a+4 c=3840 & c=n u m b e r ~ o f ~ c h i l d ~ t i c k e t s ~
\end{array}
$$

How many of each type of ticket were sold?
$\square$
14. A circle has the equation $\left(x^{2}-4 x\right)+\left(y^{2}+8 y\right)=5$.

Express this equation in the standard form $(x-h)^{2}+(y-k)^{2}=r^{2}$.


For Questions 15-16, choose the BEST answer and write the correct letter in the box provided.
15. The limit of the function $f(x)=x^{2}-3 x+2$ as $x$ approaches 0 would be:
A. -2
B. 2

D. -3
16. Which of the following equations best illustrate the given graph?
A. $y=x^{2}-4$
B. $y=\sqrt{x}$
C. $\quad y=(x-2)^{3}$
D. $y=\frac{1}{x}$

17. Suppose the basic quadratic function $y=x^{2}$ is being translated and is now $y=x^{2}-3$. 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 $y=\frac{1}{2} x+1$.
$\square$
19. Draw a graph of $y=2 x^{3}-11 x^{2}+7 x+20$ showing all intercepts.

Hint: $(x+1)$ is one factor of this function.

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


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. $A_{1}=40, d=100$
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 $3^{\text {rd }}$ 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 $\mathbf{6}^{\text {th }}$ July?

23. The sum of the first $n$ terms of a geometric series is $\frac{8\left(1-0.2^{n}\right)}{0.8}=9.99936$.

How many terms are being added?


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. $\quad 3$ 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.
$\square$
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.
$\square$
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)
$\square$

For Questions 30-32, choose the BEST answer and write the correct letter in the box provided.
Refer to the function $f(x)$ below to answer Questions $30-32$ below:

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

30. The derivative $f^{\prime}(x)$ for the function $f(x)$ must be equal to:
A. $3 x^{2}-3 x$
B. $3 x^{2}$

C. $\quad x^{3}-3$
D. $3 x^{2}-3$
31. The gradient of $f(x)$ at the point where $\mathbf{x}=\mathbf{1}$ would be:
A. 0
B. 1
C. 2
D. 3
32. When $x=1$, what would be the value of $y$ ?
A. 0
B. 1
C. 2
D. 3
33. Determine the gradient of the tangent to the curve, at the point where $x=1$.



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

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

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

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

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 $V=200-1.2 t^{2}+0.08 t^{3}$, where $0 \leq t \leq 15$
Find the minimum volume of the family's water tank.


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

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

37. Sketch the function $f(x)=6 x+x^{2}-x^{3}$ 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.
$\square$

For Questions 39-41, choose the BEST answer and write the correct letter in the box provided.
39. According to common trigonometric identities, $\operatorname{Sin}^{2} x$ is equal to:
A. $\operatorname{Cos}^{2} x$
B. $\operatorname{Tan}^{2} x$
C. $\quad 1-\operatorname{Cos}^{2} x$
D. $1+\operatorname{Cos}^{2} x$

40. When using the rule $a^{2}=b^{2}+c^{2}-2 b c \operatorname{Cos} A$, the value of $x$ in the below triangle, correct to one decimal place, would be:
A. $\quad 10.2 \mathrm{~m}$
B. 11.5 m
C. 12.1 m
D. 13.4 m

41. $\frac{\pi}{3}$ radian is equivalent to:
A. $30^{\circ}$
B. $45^{0}$

C. $60^{\circ}$
D. $120^{\circ}$
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 $35^{\circ}$. How long is the shadow?

43. Determine length of the arc in the figure at right, correct to 1 decimal place.

Arc Length, $l=\frac{\theta}{360} \times 2 \pi r$


44. 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 $120^{\circ}$, 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 $\quad$ Area $=l w \quad$ Perimeter $=2 l+2 w$ | Arithmetic: $a+(a+d)+(a+2 d)+(a+3 d) \ldots$ |
| Triangle: Area $=1 / 2 \mathrm{bh}$ | $t_{n}=a+(n-1) d$ |
| Trapezium Area $=\frac{1}{2}(a+b) h$ | $S_{n}=\frac{n}{2}\left(2 a+(n-1) d=\frac{n}{2}(a+l)\right.$ |
| Circle: $\quad$ Area $=\pi r^{2} \quad$ Circumference $=2 \pi r$ | Geometric: $a+a r+a r^{2}+a r^{3}+\cdots$ |
| Arc Length, $l=\frac{\theta}{360} 2 \pi r$ | $t_{n}=a r^{n-1}$ |
| $\text { Sector } \text { Area }=\frac{\theta}{360} \pi r^{2}$ | $S_{n}=\frac{a\left(1-r^{n}\right)}{1-r} \cdot r \neq 1$ |
| Sphere Area $=4 \pi r^{2} \quad$ Volume $=\frac{4}{3} \pi r^{3}$ | $S_{\infty}=\frac{a}{1-r}$. for $\|r\|<1$ |
| Cone Curved Area $=\pi r l \quad$ Volume $=\frac{1}{3} A h$ | Sigma: $\sum_{1}^{n} t_{n}=t_{1}+t_{2}+t_{n}$ |
| ALGEBRA$\begin{aligned} & \text { Quadratics if } a x^{2}+b x+c=0 \text { then } \\ & \qquad x=\frac{-b \pm \sqrt{b^{2}-4 a c}}{2 a} \end{aligned}$ | COORDINATE GEOMETRY |
|  | Lines $y=m x+c$ |
|  | $y-y_{1}=m\left(x-x_{1}\right)$ |
| Exponents$\begin{aligned} & a^{m} \cdot a^{n}=a^{m+n} \\ & \frac{a^{m}}{a^{n}}=a^{m-n} \end{aligned}$ | Distance $d=\sqrt{\left(x_{1}-x_{2}\right)^{2}+\left(y_{1}-y_{2}\right)^{2}}$ |
|  | $\text { Midpoint }=\frac{x_{1}+x_{2}}{2}, \frac{y_{1}+y_{2}}{2}$ |
| $(a b)^{m}=a^{m} b^{m}$ | Gradient $m=\frac{y_{2}-y_{1}}{x_{2}-x_{1}}$ |
| $a^{0}=1,(a \neq 0)$ |  |
| Logarithms |  |
| if $y=b^{x}$ then $\log _{h} y=x$ |  |
| $\log _{h} x+\log _{h} y=\log _{h} x y$ |  |
| $\log _{h} x-\log _{h} y=\log _{h} \frac{x}{y}$ | STATISTICS |
| $\log _{a} x=\frac{\log _{b} x}{\log _{b} a}$ | z-score: $\quad z=\frac{x-\bar{x}}{s}$ |
| $\log _{h} x^{n}=n \log _{h} x$ |  |

## TRIGONOMETRY

Pythagoras Theorem $\quad a^{2}+b^{2}=c^{2}$
Sine Rule $\frac{a}{\operatorname{Sin} A}=\frac{b}{\operatorname{Sin} B}=\frac{c}{\operatorname{Sin} C}$
Area $=\frac{1}{2} b c \sin A$
Cosine Rule $a^{2}=b^{2}+c^{2}-2 b c \operatorname{Cos} A$

## Identities

$$
\begin{aligned}
& \cos ^{2} \theta+\sin ^{2} \theta=1 \\
& \sec \theta=\frac{1}{\cos \theta} \\
& \tan \theta=\frac{\sin \theta}{\cos \theta} \\
& \cot \theta=\frac{1}{\tan \theta}=\frac{\cos \theta}{\sin \theta}
\end{aligned}
$$

## DIFFERENTIAL CALCULUS

## First Principle

$$
f^{\prime}(x)=\lim _{h \rightarrow 0} \frac{f(x+h)-f(x)}{h}, h \neq 0,
$$

## By Rule

$$
\begin{aligned}
& \text { If } f(x)=x^{n} \text {, then } f^{\prime}(x)=n x^{n-1} . \\
& \text { If } f(x)=a x^{n,} \text { then } f^{\prime}(x)=n a x^{n-1} . \\
& \text { If } f(x)=c \text {, then } f^{\prime}(x)=0(\text { where } c \text { is constant }) . \\
& \text { If } f(x)=g(x)+h(x) \text {, then } f^{\prime}(x)=g^{\prime}(x)+h^{\prime}(x) .
\end{aligned}
$$

Tangent gradient, $m=f^{\prime}(x)$

$$
\text { Normal gradient }=-\frac{1}{m}
$$

## INTEGRAL CALCULUS

$$
\begin{aligned}
& \int x^{n} d x=\frac{1}{n+1} x^{n+1}+c, n \neq-1 \\
& \int(a x+b)^{n} d x=\frac{1}{a(n+1)}(a x+b)^{n+1}+c, n \neq-1
\end{aligned}
$$

## Normal distribution

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


Differences

| $z$ | 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 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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| 0.2 | . 0793 | . 0832 | . 0871 | . 0910 | . 0948 | . 0987 | . 1026 | . 1064 | . 1103 | . 1141 | 4 | 8 | 12 | 15 | 19 | 22 | 27 | 31 | 35 |
| 0.3 | . 1179 | . 1217 | . 1255 | . 1293 | . 1331 | . 1368 | . 1406 | . 1443 | . 1480 | . 1517 | 4 | 8 | 11 | 15 | 19 | 22 | 26 | 30 | 34 |
| 0.4 | . 1554 | . 1591 | . 1628 | . 1664 | . 1700 | . 1736 | . 1772 | . 1808 | . 1844 | . 1879 | 4 | 7 | 11 | 14 | 18 | 22 | 25 | 29 | 32 |
| 0.5 | . 1915 | . 1950 | . 1985 | . 2019 | . 2054 | . 2088 | . 2123 | . 2157 | . 2190 | . 2224 | 3 | 7 | 10 | 14 | 17 | 21 | 24 | 27 | 31 |
| 0.6 | . 2258 | . 2291 | . 2324 - | . 2357 | . 2389 | . 2422 | . 2454 | . 2486 | . 2518 | . 2549 | 3 | 6 | 10 | 13 | 16 | 19 | 23 | 26 | 29 |
| 0.7 | . 2580 | . 2612 | . 2642 | . 2673 | . 2704 | . 2734 | . 2764 | . 2794 | . 2823 | . 2852 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 |
| 0.8 | . 2881 | . 2910 | . 2939 | . 2967 | . 2996 | . 3023 | . 3051 | . 3078 | . 3106 | . 3133 | 3 | 6 | 8 | 11 | 14 | 17 | 19 | 22 | 25 |
| 0.9 | . 3159 | . 3186 | . 3212 | . 3238 | . 3264 | . 3289 | . 3315 | . 3340 | . 3365 | . 3389 | 3 | 5 | 8 | 10 | 13 | 15 | 18 | 20 | 23 |
| 1.0 | . 3413 | . 3438 | . 3461 | . 3485 | . 3508 | . 3531 | . 3554 | . 3577 | . 3599 | . 3621 | 2 | 5 | 7 | 9 | 12 | 14 | 16 | 18 | 21 |
| 1.1 | . 3643 | . 3665 | . 3686 | . 3708 | . 3729 | . 3749 | . 3770 | . 3790 | . 3810 | . 3830 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 19 |
| 1.2 | . 3849 | . 3869 | . 3888 | . 3907 | . 3925 | . 3944 | . 3962 | . 3980 | . 3997 | . 4015 | 2 | 4 | 5 | 7 | 9 | 11 | 13 | 15 | 16 |
| 1.3 | . 4032 | . 4049 | . 4066 | . 4082 | . 4099 | . 4115 | . 4131 | . 4147 | . 4162 | . 4177 | 2 | 3 | 5 | 6 | 8 | 10 | 11 | 13 | 14 |
| 1.4 | . 4192 | . 4207 | . 4222 | . 4236 | . 4251 | . 4265 | . 4279 | . 4292 | . 4306 | . 4319 | 1 | 3 | 4 | 6 | 7 | 8 | 10 | 11 | 13 |
| 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 | 9 |
| 1.7 | . 4354 | . 4564 | . 4573 | . 4582 | . 4591 | . 4599 | . 4608 | $.4616 *$ | -. 4625 | . 4633 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1.8 | . 4641 | . 4649 | . 4656 | . 4664 | . 4671 | . 4678 | . 4686 | . 4693 | . 4699 | . 4706 | 1 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 6 |
| 1.9 | . 471 | . 4719 | . 4726 | . 4732 | . 4738 | . 4744 | . 4750 | . 4756 | . 4761 | . 4767 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 |
| 2.0 | . 4772 | . 4778 | . 4783 | . 4788 | . 4793 | . 4798 | . 4803 | . 4808 | *. 4812 | . 4817 | 0 | 1 | 1 | * 2 | 2 | 3 | 3 | 4 | 4 |
| 2.1 | . 4821 | . 4826 | . 4830 | . 4834 | . 4838 | . 4842 | . 4846 | . 4850 | . 4854 | . 4857 | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 |
| 2.2 | . 4861 | . 4864 | . 4868 | . 4871 | . 4875 | . 4878 | . 4881 | . 4884 | . 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 | . 49 | . 4920 | . 4922 | . 492 | . 4927 | . 4929 | .4931 | . 4932 | . 4934 | . 4936 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| 2.5 | . 4938 | . 4940 | . 4941 | . 4943 | . 4945 | . 4946 | . 4948 | . 4949 | . 4951 | . 4952 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2.6 | . 4953 | . 4955 | . 4956 | . 4957 | . 4959 | . 4960 | . 4961 | . 4962 | . 4963 | . 4964 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2.7 | . 4965 | . 4966 | . 4967 | . 4968 | . 4969 | . 4970 | . 4971 | . 4972 | . 4973 | . 4974 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 2.8 | . 4974 | . 4975 | . 4976 | . 4977 | . 4977 | . 4978 | . 4979 | . 4979 | . 4980 | . 4981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2.9 | . 4981 | . 4982 | . 4982 | . 4983 | . 4984 | . 4984 | . 4985 | . 4985 | . 4986 | . 4986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3.0 | . 4987 | . 4987 | . 4987 | . 4988 | . 4988 | . 4989 | . 4989 | . 4989 | .4990 | . 4990 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.1 | . 4990 | . 4991 | . 4991 | . 4991 | . 4992 | . 4992 | . 4992 | . 4992 | . 4993 | . 4993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2 | . 4993 | . 4993 | . 4994 | . 4994 | . 4994 | . 4994 | . 4994 | . 4995 | . 4995 | . 4995 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.3 | . 4995 | . 4995 | . 4995 | . 4996 | . 4996 | . 4996 | . 4996 | . 4996 | . 4996 | . 4997 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.4 | . 4997 | . 4997 | . 4997 | . 4997 | . 4997 | . 4997 | . 4997 | . 4997 | . 4998 | . 4998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.5 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | . 4998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.6 | . 4998 | . 4998 | . 4999 | . 4999 | . 4999 | . 4999 | . 4999 | . 4999 | . 4999 | . 4999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 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 |  |  |  |  |  |  |  |  |  |
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## MATHEMATICS

2022
(For Scorers only)

| CURRICULUM STRANDS |  | Weighting | Scores | Check <br> Scorer | AED <br> 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 |  |  |  |

