Assessment Schedule – Term 4, 2023

Subject: Numeracy (32406)

Outcomes

Outcome 1	Outcome 2	Outcome 3
Formulate mathematical and statistical approaches to solving problems in a range of meaningful situations.	Use mathematics and statistics to meet the numeracy demands of a range of meaningful situations.	Explain the reasonableness of mathematical and statistical responses to situations.

Evidence

Question 1	Answer / Judgement	Outcome		
		1	2	3
1a	South-west	✓		
1b	(iii) Middle box (3rd from left)		✓	
1c	22 ÷ 3.6 = 6.i̇ (accept answer in range 6–6.5)		✓	
1d	C (9,000 km)	✓		
1e	C	✓		
1f	−9 or −9 m (accept the answer with or without unit)	✓		
1g	Accept Olioli is **in**correct. Flight to Tonga takes the shortest time, not the longest. Must be supported by calculations for at least **two** destinations. One minor calculation error is permitted, providing the position taken is consistent with the calculation. Correct calculations are: • Nadi flight takes 3 hours and 5 minutes (09:55–13:00) • Nuku'alofa flight takes 2 hours and 50 minutes (11:25–14:15) • Alofi flight takes 3 hours and 30 minutes (08:15–11:45)			✓
1h	True statements are: • A: 10% of the people were hoping to visit Samoa this year • B: 200 people were not sure if they would visit Samoa this year • D: About ⅓ of the people hoping to visit Samoa this year were going to visit family or friends. Must have at least TWO correct, and **not** include C.		✓	

Question 2	Answer / Judgement	Outcome		
		1	2	3
2a	420 m^2 (units not required)		✓	
2b	Kendra and Tania need to change places (either name order)	✓		
2c	Is he right? No Correct answer of **25 minutes** is required. Calculations might be: • 5 × 40 = 200 player minutes. 200 ÷ 8 = 25 minutes each • 5/8 × 40 = 25 minutes each • 5 players at 30 minutes each equals 150 minutes. That leaves only 5 x 10 minutes to share among the remaining 3 players. That is not enough time. • 8 x 30 minutes equals 240 minutes. There are only 5 x 40 minutes = 200 minutes available. Other valid variations accepted.			✓
2d	Middle arrow (closest to 45º)		✓	
2e	If Lucy's idea is accepted – must be supported by evidence of probabilistic thinking that connects both free throws and **does not just restate** the 50% probability of one free throw. e.g., • ¼ probability of 2 goals, 2/4 = ½ probability of 1 goal. So, probability of ¾ for at least 1 goal. • ½ chance Lisa will miss each time. ½ of ½ = ¼ so she has only a one quarter chance of missing both shots. • Since the first throw has a 50% chance of success then two throws must give her more than a 50% chance of at least one goal. If Lucy's idea is rejected – must also be supported by probabilistic thinking that acknowledges both throws. *Unacceptable answers include: "it is just 'luck' and there is no way to predict what might happen" or "if one misses the other will go in".*			✓
2f	25,000 (accept 23,000 to 27,000) Accept numbers given for each gender (e.g., Girls about 7,000; Boys about 18,000) which *may* be accompanied by joining symbols, such as '+' or 'and'.	✓		

Question 3	Answer / Judgement	Outcome		
		1	2	3
3a	1.72 – 0.89 = **0.83** (unit not required)	✓		
3b	10 x 55 = $550. $550 ÷ 22 = **25**		✓	
3c	Accept in range $600 to $680	✓		
3d	Should state that adults generally give more than school students. Support with evidence such as: • Median for adults is about $22. Median for school students is about $13. • Clustering for adults is $5 to $80. Clustering for school students is $1 to $30.			✓
3e	200 + 4 × 35 = $**340** or 2 x 200 = $**400** (answer only – unit not required)		✓	

Question 4	Answer / Judgement	Outcome		
		1	2	3
4a	100 × 5 = **500** (accept in range 450–550)		✓	
4b	Top right (or third from left if on paper)		✓	
4c	Claim may be accepted as close to 20 km or rejected because 19,200 m is less than 20 km. Must be supported by correct calculations such as: • 12,000 × 1.6 = 19,200 m = 19.2 km			✓
4d	35 ÷ 3 × 2 = 23.$\dot{3}$ days (accept answers in range 23 to 24 days)		✓	
4e	7.5% of 6,000,000 = **450,000** Jersey cows (accept answers in the range 400,000 to 500,000) (number only needed – calculation not required). *Percentage answers are not acceptable.*	✓		
4f	Accepts the claim. Supports the claim with calculations like: • 300/500 = 3/5 = 60% • 300/500 = 0.6 = 60% • 300/500 = 3:2, 3:2 is 3/5 = 6/10 (inferring student knows that 6/10 = 60%).			✓

Question 5	Answer / Judgement	Outcome		
		1	2	3
5a	1987 **was** an election year. Correct answers supported by calculations, such as: • 2023, 2020, 2017, 2014, 2011, 2008, 2005, 2002, 1999, 1996, 1993, 1990, 1987 were all election years. • 2023 – 1987 = 36, 36 is a multiple of 3 so 1987 was an election year. • 2023 – 3 – 3 – 3 – 3 – 3 … = 1987.			✓
5b	E (3,900,000 ÷ 72)		✓	
5c	15% × 120 = **18** seats		✓	
5d	TWO coalitions required with no incorrect ones: • Banana and Orange parties. • Apple and Banana parties. • Orange, Kiwifruit, and Apple parties.	✓		
5e	4 × 6 = **24** combinations	✓		