



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

**MARKING GUIDELINES
MATHEMATICS TEST – STATISTICS
AMAJUBA DISTRICT
AUGUST 2021**

MARKS: 30

TIME: 45 minutes

This Memorandum consists of 3 pages.

Gr 12 Statistics Memo			
Question / Vraag 1			[10]
1.1.1	$\bar{x} = \frac{800}{10} = 80$ Slegs antwoord: Volpunte / Answer only : Full marks	✓ 800 ✓ /10	(2)
1.1.2	$\sigma = 18,83$	✓✓ answer	(2)
1.2	$80 + 18,83 = 98,83$ $\therefore 3 \text{ dae}$	✓ Average+ SD Gem +std afw ✓ Answer /antwoord	(2)
1.3.1	Skewed to the left or negatively skewed Skeef na links of negatief skeef	✓ Answer /antwoord	(1)
1.3.2	$A = 65$ $B = 99$ Antwoorde sonder om A en B te noem: 1/2 Not stating A and B 1/2	✓ Answer /antwoord ✓ Answer /antwoord	(2)
1.4	New Total / Nuwe totaal = $95 \times 10 = 950$ Units not counted / Eenhede nie getel nie $950 - 800 = 150$	✓ Answer /antwoord	(1)

Question / Vraag 2					[10]																						
2.1		<table><thead><tr><th>Time (hours)/ Tyd (in uur)</th><th>Frequency Frekwensie</th><th>Cumulative frequency Kumulatiewe frekwensie</th></tr></thead><tbody><tr><td>$0 \leq t < 20$</td><td>25</td><td>25</td></tr><tr><td>$20 \leq t < 40$</td><td>44</td><td>69</td></tr><tr><td>$40 \leq t < 60$</td><td>60</td><td>129</td></tr><tr><td>$60 \leq t < 80$</td><td>28</td><td>157</td></tr><tr><td>$80 \leq t < 100$</td><td>9</td><td>166</td></tr><tr><td>$100 \leq t < 120$</td><td>6</td><td>172</td></tr></tbody></table>	Time (hours)/ Tyd (in uur)	Frequency Frekwensie	Cumulative frequency Kumulatiewe frekwensie	$0 \leq t < 20$	25	25	$20 \leq t < 40$	44	69	$40 \leq t < 60$	60	129	$60 \leq t < 80$	28	157	$80 \leq t < 100$	9	166	$100 \leq t < 120$	6	172			✓44 ✓129 ✓28	(3)
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2.2	Cumulative frequency Kumulatiewe frekwensie				✓anker by 0/ ground at 0 ✓gebruik bogrens en Kum Frekw/ Use upper limit and Cum. Freq ✓gladde kromme/ Smooth curve	(3)																					
2.3	$80\% \times 120 = 96 \text{uur/hours}$ $(96; 164)$ $172 - 164 = 8 \text{leerders/learners}$			✓164 ✓8	(2)																						

2.4	<i>Benaderde gem/Estimated mean</i> $\frac{25 \times 10 + 44 \times 30 + 60 \times 50 + 28 \times 70 + 9 \times 90 + 6 \times 110}{172}$ $= \frac{8000}{172}$ $= 46,51 \text{ uur/hours}$	✓✓answer	(2)
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	Question 3 / Vraag 3		[10]
3.1	$a = 72,1230$ $b = 0,1780$ $\hat{y} = 72,1230 + 0,1780x$		(3)
3.2	$r = 0,5659$		(2)
	Redelike (Matige) positiewe verband / Relative positive realtion		(1)
3.3	Leerder Prestasie Opname $y = 0.178x + 72.12$ $R^2 = 0.320$ Eksamen Persentasie (%) Studeer Tyd (minute per dag)		(2)
3.4	$\hat{y} = 72,1230 + 0,1780(50)$ $= 81\%$		(1)
3.5	Learner N		(1)