

- 3.3 The actual distance, as the crow flies, from Middelburg to Ermelo is 108 km and it measures 6 cm on the map. Determine the scale of this map.

Memo: 83

- 3.3.1 Name two places of interest an animal lover can visit in Mpumalanga, as shown on the map.
- 3.3.2 The Free State lies to the _____ of Mpumalanga.
- 3.3.3 Name the two neighbouring countries on the border of Mpumalanga.
- 3.3.4 According to this map, on which national road would one travel to get from Middelburg to Nelspruit?
- 3.3.5 The actual distance, as the crow flies, from Middelburg to Ermelo is 108 km and it measures 6 cm on the map. Determine the scale of this map.

(3)

- 3.3.1 Noem twee plekke van belang wat 'n diereliehebber in Mpumalanga kan besoek, soos op die kaart getoon. (2)
- 3.3.2 Die Vrystaat (Free State) lê _____ van Mpumalanga. (2)
- 3.3.3 Noem die twee buurfande op die grens van Mpumalanga. (2)
- 3.3.4 Op watter nasionale pad sal 'n mens van Middelburg na Nelspruit ry volgens hierdie kaart? (2)
- 3.3.5 Die werlike afstand met 'n reguit lyn van Middelburg na Ermelo is 108 km en dit is 3,6 cm op die kaart. Bepaal die skaal van hierdie kaart. (3)

- 3.3.6 Thandi left Middelburg at 2 pm to drive to Ermelo. The distance between these two towns is 108 km and she travelled at a speed of 81 km/h. Determine, using analogue time format, the time Thandi will arrive at Ermelo. Assume no stops were made.
- The World American Wrestling Entertainment Inc. WWE, is an American integrated media and entertainment company that is primarily known for professional wrestling.

Question 4

4.1 The WWE's 10 highest paid wrestlers in 2017 are shown in the graph below:



WWE LIVE was expected to return to South Africa in 2020 with events in Cape Town, Durban and Johannesburg. Famous WWE-wrestlers Seth Rollins and Becky Lynch were among those expected to have appeared.

4.1 The WWE's 10 highest paid wrestlers in 2017 are shown in the graph below:

Earnings of WWE wrestlers in 2017 / Verdienste van WWE stoelers in 2017

Wrestler	Earnings (\$m)
John Cena	\$10.0m
Brock Lesnar	\$4.3m
Roman Reigns	\$3.5m
AJ Styles	\$3.2m
Triple H	\$2.9m
Randy Orton	\$2.5m
Seth Rollins	\$2.2m
The Undertaker	\$2.2m
Dean Ambrose	\$2.0m
Kevin Owens	\$2.0m

4.1 Die WWE se 10 bestbetaalde stoelers in 2017 word op die grafiek hieronder getoon.

WWE LIVE sou na verwagting in 2020 na Suid-Afrika terugkeer met geleenthede in Kaapstad, Durban en Johannesburg. Die bekende WWE-stoeler Seth Rollins en Becky Lynch was onder diegene wat na verwagting verskyn.

Vraag 4

- 3.3.6 Thandi verlaat Middelburg om 2 pm om Ermelo toe te ry. Die afstand tussen hierdie twee dorpe is 108 km en sy ry teen 'n snelheid van 81 km/h. Bepaal hoe laat Thandi in Ermelo sal aankry deur die analooggetiformaat te gebruik. Neem aan dat sy glad nie stilgehou het nie. (5)

Earnings include salary, cuts from WWE revenue and wrestler's merchandise sales / Verdiene sluit salaris, deel van WWE-inkomste en sterren se handelsoverweselings in.

Memo: 83; 84

H1

Use the graph to answer the questions that follow.

4.1.1 Name the type of graph that is represented.

4.1.2 State the value of a single note (R \blacksquare).

4.1.3 Determine the range in earnings of the top 10 WWE wrestlers.

4.1.4 Calculate the mean (average) earnings of the top 10 WWE wrestlers. Write your answer in number format without using the word million.

4.1.5 Calculate the median earnings of the top 10 WWE wrestlers.

4.1.6 (a) The box-and-whisker plot below illustrates the top 10 WWE wrestlers' earnings. The lower quartile is \$2.5 million.

4.1.7 Noem die waarde van 'n enkele voorgestel is.

4.1.8 Bepaal die vanliewydte van die verdienste van die top-10 WWE-stokers.

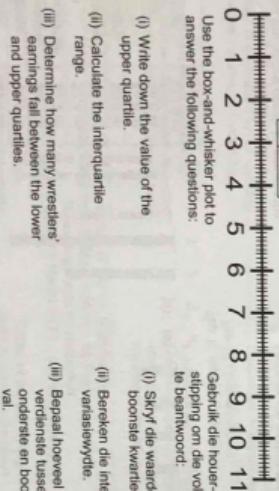
4.1.9 Bereken die gemiddelde verdienste van die top-10 WWE-stokers.

4.1.10 Skryf jou antwoord in gelikharmat sonder om die woord 'miljoen' te gebruik.

4.1.11 Bereken die mediaanverdienste van die top-10 WWE-stokers. (3)

4.1.12 Die houer-en-punt-stipping hieronder illustreer die top-10 WWE-stokers se verdienste. Die onderste kwartiel is \$2.5 miljoen.

- Write down the value of the upper quartile.
- Calculate the interquartile range.
- Determine how many wrestlers' earnings fall between the lower and upper quartiles.



Use the box-and-whisker plot to answer the following questions:

(i) Write down the value of the upper quartile.

(ii) Calculate the interquartile range.

(iii) Determine how many wrestlers' earnings fall between the lower and upper quartiles.

H1

Gebruik die grafiek om die vrae wat volg te beantwoord.

4.1.11 Noem die type grafiek wat hier voorstell is. (2)

4.1.12 Die data is skewed to the left. (2)

4.1.13 Die upper quartile represents the top 25% earners. (2)

4.1.14 Die verskil in verdienste for the upper quartile is larger than the difference for the lower quartile. (2)

4.1.15 Die sirkeldiagram hieronder toon die WWE's highest-paid wrestlers in 2019. (2)

4.1.16 (a) Die sirkeldiagram hieronder illustreer die top-10 WWE-stokers se verdienste. Die onderste kwartiel is \$2.5 miljoen.

4.1.17 Randy Orton \$1.9 m
9. Seth Rollins \$2.0 m
8. The Undertaker \$2.0 m
7. Shane McMahon \$2.2 m
6. AJ Styles \$2.4 m
5. Dean Ambrose \$2.7 m
4. Roman Reigns \$3.5 m
3. Triple H \$3.8 m
2. John Cena \$8.0 m
1. Brock Lesnar \$12.0 m

4.2 The pie chart below shows the WWE's highest-paid wrestlers in 2019. (2)

4.2.1 Skryf die maksimum bedrag wat in 2019 deur 'n stoker verdien is. (2)

4.2.2 State the modal earnings in 2019. (2)

4.2.3 (a) Calculate Brock Lesnar's earnings as a percentage of the total earnings. (3)

4.2.4 Hence, calculate the size (in degrees) of the sector in Question 4.2.3(a) of the pie chart. (3)

4.2.5 (a) Bereken Brock Lesnar se verdienste as 'n persentasie van die totale verdienste. (2)

(b) Bereken vervolgens die grootte (in grade) van die sektor in Vraag 4.2.3(a) van die sirkeldiagram. (2)

(b) Select the correct statement(s) to describe the upper quartile of the data.

(i) Die data is skewed na links, (ii) Die boomsste kwartiel ver teenwoordig die top-25%

(iii) Die verskil in verdienste vir die boomsste kwartiel vir die groter as die verskil vir die onderske kwartiel. (2)

4.2.2 Die sirkeldiagram hieronder toon die WWE's highest-paid stokers in 2019. (2)

**H1**

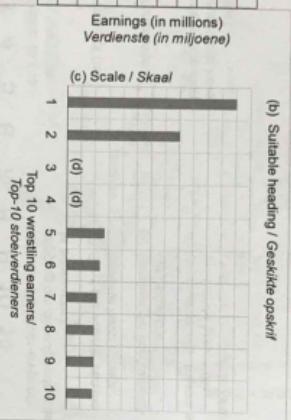
(b) Kies die korrekte stelling(s) om die boomsste kwartiel van die data te beskryf.

(i) Die data is skeef na links, (ii) Die boomsste kwartiel ver teenwoordig die top-25%

(iii) Die verskil in verdienste vir die boomsste kwartiel vir die groter as die verskil vir die onderske kwartiel. (2)

4.2.4 Below is a bar graph depicting the top 10 highest-paid WWE wrestlers in 2019 with certain information omitted.

		Earnings (in millions) Verdienste (in miljoene)
10.	Randy Orton	\$1.9 m
9.	Seth Rollins	\$2.0 m
8.	The Undertaker	\$2.0 m
7.	Shane McMahon	\$2.2 m
6.	AJ Styles	\$2.4 m
5.	Dean Ambrose	\$2.7 m
4.	Roman Reigns	\$3.5 m
3.	Triple H	\$3.8 m
2.	John Cena	\$8.0 m
1.	Brock Lesnar	\$12.0 m
		\$40.5 m



Use the above graph to answer the questions that follow:

- (a) Is the data represented in the graph numerical or categorical?

Gebruik die grafiek hierbo om die vrae wat vlog te beantwoord:

(a) Is die data wat in die grafiek voorgestel word numeries of kategoriese?

Volgtoed vraag (b) – (d) in die toepasslike spascies op die grafiek:

(b) Provieds een suiflike heading for the graph.

(c) Provieds een suitable scale for the graph.

(d) Sketch the bars for Triple H and Roman Reigns.

Question 5

Vraag 5

Lerato has an important meeting scheduled with her employers to discuss a possible salary increase.

5.1 While getting ready for the meeting, Lerato is undecided as to what she is going to wear. She must choose between three different coloured pants (black, grey and brown) and two different coloured blouses (red and green).

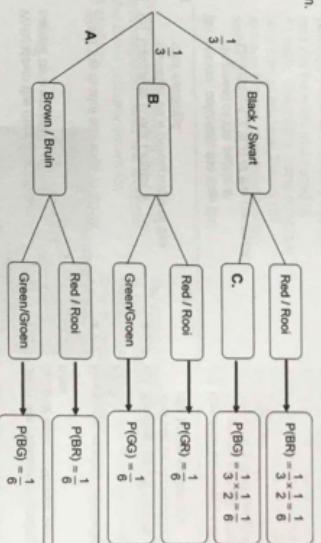
Lerato het 'n belangrike vergadering met haar werkgevers geskeuteuber om 'n moontlike salarisverhoging te besprek.

5.1 Terwyl sy vir die vergadering gereed maak, kan Lerato nie besluit wat sy moet aanneem nie. Sy moet nes tussen drie verskillende kleure langbroek (swart, grys en bruin) en twee verskillende kleure blouse (rooi en groen).

4.2.4 Hieronder is 'n staafgrafiek wat die top 10 bestekende WWE-stoeveldieners in 2019 uitbeeld met sekere inligting wat weggelat is.

H1

Complete the answers for **A**, **B** and **C** on the tree diagram below to complete the possible combinations she can choose from.



Calculate the probability that Lerato would wear black pants, a green blouse and black boots if the probability of her choosing black boots is 0.35.

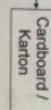
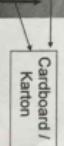
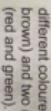
5.2 When arriving at the meeting, Lerato notices that the board room has three blue chairs, two red chairs and four brown chairs. A co-worker was already seated in one of the brown chairs. Determine the probability that Lerato would also select a brown chair to sit on. Write your answer as a fraction.

5.3 During the meeting, Lerato was offered a sandwich. The sandwich was cut diagonally into two triangles as illustrated below.

Bereken die waarskynlikheid dat Lerato 'n swart langbroek, 'n groen bloes en swart stewels sal dra indien die waarskynlikheid 0.35 is dat sy haar swart stewels sal kies.

5.2 Toet sy by die vergadering kom, sien Lerato dat die raadsaal drie blou stoelle, twee rooi stoelle en vier bruin stoelle het. 'n Medewerker sit reeds op een van die bruin stoelle. Bepaal die waarskynlikheid dat Lerato ook 'n bruin blous sal kies om op te sit. Skryf jou antwoord as 'n breuk.

5.3 Tydens die vergadering word Lerato 'n toetbroodjie aangebied. Die toetbroodjie is diagonaal in twee driehoekige gesny soos hieronder geillustreer.



Paper / Papier

5.1 Lerato het 'n belangrike vergadering met haar werkgevers geskeuteuber om 'n moontlike salarisverhoging te besprek.

5.1 Terwyl sy vir die vergadering gereed maak, kan Lerato nie besluit wat sy moet aanneem nie. Sy moet nes tussen drie verskillende kleure langbroek (swart, grys en bruin) en twee verskillende kleure blouse (rooi en groen).

Memo: 85

H1

Voltooi die antwoorde vir **A**, **B** en **C** in die boomdiagram hieronder om die moontlike kombinasies waaruit sy kan kies te voltooi.

H1

Memo: 85

5.3.1 The sandwich was served on a folded piece of cardboard as seen in the picture. Calculate the total length of the piece of cardboard.

5.3.2 The sandwich has a triangular label that is not visible in the picture but is illustrated below. Calculate the area of the label.



SANDWICH

You may use the following formula:

$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{perpendicular height}$$

5.4 Lerato receives a salary increase and will receive a monthly taxable income of R20 800.

5.4.1 Calculate Lerato's annual taxable income if she earns a bonus, which is equivalent to her monthly taxable income, in December.

5.4.2 Lerato calculated her annual tax, before rebates were deducted, using the extract from the tax table below:

Rates of tax for individuals	
2021 Tax Year (1 March 2020 – 28 February 2021)	
2021-Belastingjaar (1 Maart 2020 – 28 Februarie 2021)	
Tax bracket/ Belasting- kategorie	Taxable income (in Rand) Belastbare inkomste (in rand)
2	205 901–321 600 37 062 + 26% of taxable income above/ban belastbare inkomste bo 205 900 [Phakiso: <www.sars.gov.za/Tax-Rates/income-Tax>]

Fill in the missing values A, B and C in Lerato's calculation.

$$\begin{aligned} &\text{R37 062} + 26\% (\mathbf{A} - \mathbf{R}205 900) \\ &= \mathbf{R}37 062 + 26\% (\mathbf{B}) \\ &= \mathbf{C} \end{aligned}$$

5.3.1 Doe broodjie word op 'n gevoude stuk karton bedien soos in die voorbeeld gesien. Bereken die totale lengte van die stuk karton.

(2)

5.3.2 Die broodjie het 'n driehoekige etiket wat nie sigaar is in die prent hierboe nie, maar hieronder gevou word. Bereken die oppervlakte van die etiket.

(2)

5.5 Lerato applies for a personal loan of R23 000. She is charged 24,75% simple interest per year and will repay the loan over two years in equal monthly instalments.

5.5.1 Bereken die bedrag rente wat Lerato moet betaal.

(3)

5.5.2 Bereken die totale bedrag van Lerato se lening.

(2)

5.5.1 Calculate the amount of interest Lerato is charged.

5.5.2 Calculate the total amount of Lerato's loan.

(2)

5.5.3 Calculate Lerato's total monthly repayment amount.

5.5.3 Bereken Lerato se totale maandelikse terugbetaalingsbedrag.

(2)

[24]

Independent Examination Board
November 2020
Paper 2
Marks: 150
Time: 3 hours

Onafhanklike Eksemensraad
November 2020
Vlaeblaai 2
Vlaeblaai 2
Tyd: 3 ure

H2

[24]

Question 1
Vraag 1

Jordan inherited a game farm, called "Lodge Supreme". He needs to fix and update several aspects of the lodge.

Jordan notices that the rate charged for the chalets has not changed in the past five years.

Jordan het 'n wildplaas genaamd "Lodge Supreme". Hy moet verskeie aspekte van die pleas herstel en moderniseer.

Jordan merk op dat die tarief wat vir die chalets gevra word die afgelope vyf jaar nie verander het nie.

1.1 He states that "... even though there are more people visiting theodge now than there were five years ago, theodge is making less money than it did five years ago." Explain how this is possible.

1.1 Hy se: "Selfs al besoek meer mense nou die pleas as vtf jaar gelede, maak die pleas minder geld as wat dit vtf jaar gelede gemaak het." Verduidelik hoe dit moontlik is.

(2)