

SSIP PRELIM PREPARATION 2021

**SEDIBENG WEST DISTRICT
PAPER 1**

QUESTION 1

1.1 Jane's bank balance at the end of January 2019 was -R2 530. The employer deposited her net salary on 01/2/2019 into her bank account and the new balance was R8 750.

1.1.1 Calculate the net salary amount that was deposited into Jane's bank account. (2)

1.2 Jane bought a dress that was advertised as shown in the picture below.

DRESS FOR SALE!!!



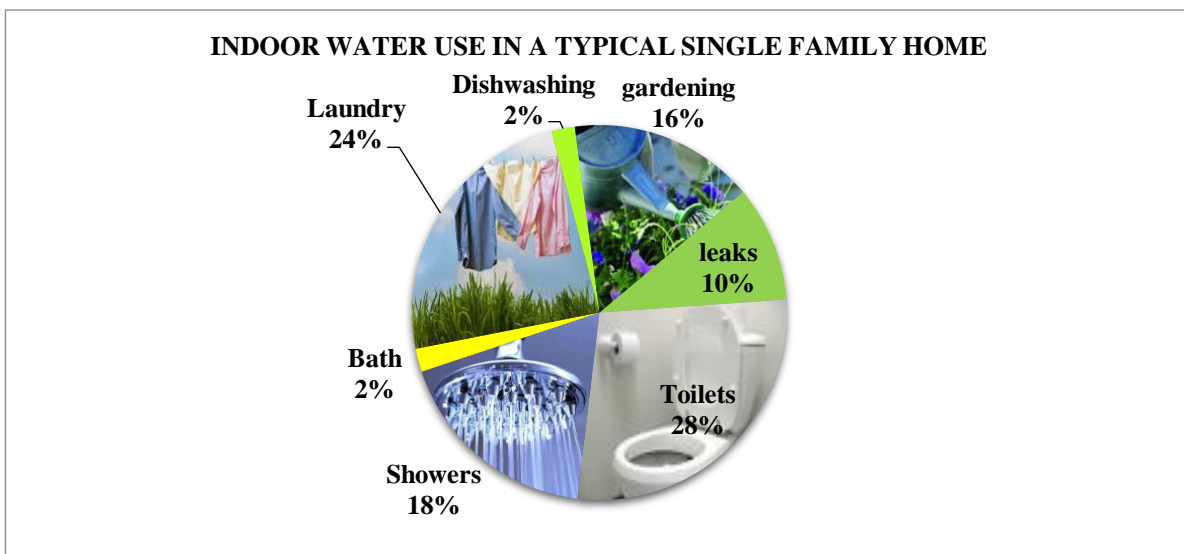
Old Price: R300

Discount: 20%

1.2.1 Calculate the 20% discount price. (2)

1.2.2 Calculate the price Jane paid for the dress after the discount. (2)

1.3 A survey was conducted to determine the quantity of water that a typical single family home uses. The results were represented in a pie chart shown below:



1.3.1 Write the ratio of water used for dishwashing to that of toilet. (2)

- 1.4 In 2019/2020 the South African government increased the social grants as indicated in **TABLE 1** below.

TABLE 1: SOCIAL GRANTS FOR 2019-2020

TYPES	MARCH 2019	MARCH 2020
Pension allowances younger than 75	R 1 695	R1 780
Pension allowances older than 75	R1 715	R1 800
War veteran allowance	R1 715	R1 800
Disability allowance	R1 695	R1 780
Foster care allowances	R960	R1 000
Care dependent allowances	R1 695	R1 780
Child support allowances	R405	R425

Use **TABLE 1** above to answer the questions that follow:

- 1.4.1 Is the type of data in TABLE 1 numerical or categorical data? (2)
- 1.4.2 Arrange the social grants for March 2019 in descending order of value. (2)
- 1.5 The inflation rate from 2015 to 2019 is given in the table below:

Inflation rate compared to previous year	
2018 to 2019	5,27%
2017 to 2018	4,78%
2016 to 2017	5,27%
2015 to 2016	6,34%

- 1.5.1 What is the modal inflation rate over the given four years? (2)
- 1.6 Philip and three friends decided to go and watch *Black Panther*. Philip is a Standard Bank Gold Credit Card holder.



Buy 4 movie tickets, pay for 3*.

With your Standard Bank Gold Credit Card.

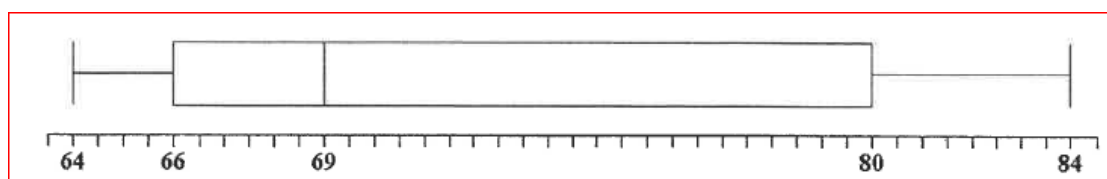
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POWERED BY YOU AND YOUR GOLD CARD

*T&Cs apply

- 1.6.1 If it costs R76 per ticket, determine how much Philip would pay for the four tickets. (2)

- 1.7 Candidates sat for the National Senior Certificate examinations in November 2019. The box and whisker plot below shows the five-number summary of the average pass percentages for Mathematical Literacy:



Use the box and whisker plot above to answer the questions that follow:

Write down the pass percentage that represents the following:

- 1.7.1 The median (2)
- 1.7.2 Interquartile range (2)

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QUESTION 2

- 2.1 The government receives income from various sources, like tax and loans. This income is then distributed to the different sectors.

TABLE 2 below shows the source of the income and the expenditure for the 2019/20 tax year.

TABLE 2: GOVERNMENT SOURCES OF INCOME AND EXPENDITURE FOR 2019/20

INCOME		EXPENDITURE	
SOURCE	AMOUNT (in billion rand)	SECTOR	AMOUNT (in billion rand)
Tax	1 370	Social Development	278,4
Loans	242,7	Basic Education	262,4
Other income	180,3	Health	222,6
Non-tax income	31,5	Peace and Safety	211,0
		Economic Development	209,2
		Community Development	208,5
		Debt Service Cost	202,2
		Further Education and Training	112,7
		Other	B
TOTAL	A		1 823,72

Use TABLE 1 above to answer the questions that follow:

- 2.1.1 Write the amount received from loans as a number in millions. (2)
 - 2.1.2 Calculate the missing value of **A**. (2)
 - 2.1.3 Calculate the missing value of **B**. Show ALL calculations. (4)
 - 2.1.4 Determine the amount allocated for Community Development as a percentage of the total expenditure. (3)
- 2.2 **ANNEXURE A** shows an extract from Mr Daniel's monthly municipal statement including the residential water and sewer tariff tables:

Use the information in **ANNEXURE A** and answer the questions that follow:

- 2.2.1 Write down the market value in words. (2)
 - 2.2.2 Calculate the VAT amount for the sewer monthly charge on a stand larger than 2 000m². (2)
 - 2.2.3 Write down the unit of measurement that was used for the meter readings. (2)
 - 2.2.4 Determine the value of **A**. (2)
 - 2.2.5 Use the stepped residential water tariff table to calculate the value of **B**, the total amount for water usage. (4)
- 2.3 Mr Daniel is 64 years old and earns a monthly basic salary of R28 550,75. The pension fund contribution is 7,5% of the basic salary, an adapted tax table for 2018/2019 is shown below:

TABLE 3: Tax rates table for 2018/2019

Taxable Income in Rands	Rate of tax in Rands
0 – 195 850	18% of taxable income
195 851 – 305 850	35 253 + 26% of taxable income above 195 850
305 851 – 423 300	63 853 + 31% of taxable income above 305 850
423 301 – 555 600	100 263 + 36% of taxable income above 423 300
TAX REBATES	
Primary	R14 067
Secondary (Persons 65 and older)	R7 713
Tertiary (Persons 75 and older)	R2 574

Use the information above and Table 3 to answer the questions that follows:

- 2.3.1 Calculate Mr Daniel's annual basic salary. (2)
- 2.3.2 Calculate his monthly contribution towards pension fund? (2)
- 2.3.3 Determine his annual taxable income. (2)
- 2.3.4 Hence calculate his annual income tax using the above TABLE 3. (4)
- 2.3.5 Define the term *tax rebate*. (2)

QUESTION 3

- 3.1 **TABLE 4** shows the types of voting stations (VSs) used during the 2016 local government elections in South Africa.

TABLE 4: TYPES OF VOTING STATIONS

PROVINCE	VSs	PERMANENT	TEMPORARY	MOBILE
Eastern Cape	4 699	4 535	161	3
Free State	1 531	1 342	189	0
Gauteng	2 716	2 389	327	0
KwaZulu-Natal	4 792	4 647	133	12
Limpopo	3 111	2 966	145	0
Mpumalanga	1 744	1 650	82	12
North West	1 723	1 605	115	3
Northern Cape	710	684	26	0
Western Cape	1 586	1 534	50	2
TOTAL	22 612	21 352	1 228	32

Use TABLE 3 above to answer the questions that follow:

- 3.1.1 State the province which has the most voting stations. (2)
- 3.1.2 Determine the mean number of voting stations (VSs) in South Africa. (3)
- 3.1.3 Write down the modal number of mobile voting stations in South Africa. (2)
- 3.1.4 Determine the total number of temporary VSs as a percentage of the total number of VSs in South Africa. (3)
- 3.1.5 Determine the probability of randomly selecting a mobile VS in Gauteng. (2)
- 3.1.6 The bar graph on **ANSWER SHEET 1** shows the total number of voting stations. (6)

On the same **ANSWER SHEET**, the first three bars are drawn showing the permanent voting stations.

Fill in the remaining bar graphs showing the permanent voting stations.

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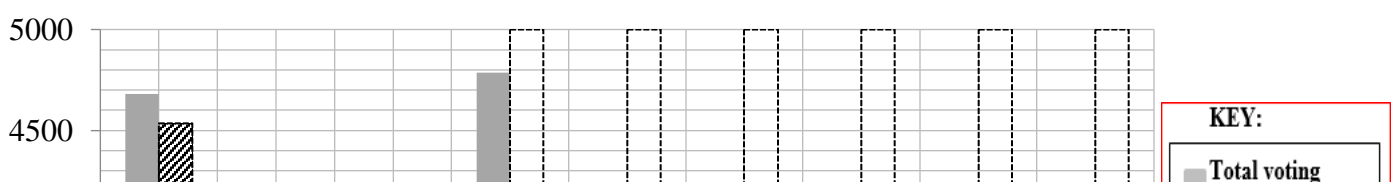
QUESTION 4

- 4.1 Daniel is an insurance broker selling car insurance. He studies the table for motor trade sales at current prices (in R million) from 2015 to 2018. The adapted table is shown in **ANNEXURE B** in the addendum.

Use the information above and **ANNEXURE B** in the addendum to answer the questions that follow:

- 4.1.1 Determine the missing values for **A** and **B**. (4)
- 4.1.2 Calculate the percentage increase in total motor trade sales from 2016 to 2017. (3)
You may use the following formula:
- $$\text{Percentage increase} = \frac{\text{New total} - \text{Old total}}{\text{Old total}} \times 100\%$$
- 4.1.3 Calculate the difference in motor trade sales for November in 2015 and 2016 (2)
- 4.1.4 Describe the trend in motor trade sales from August 2015 to August 2018. (2)
- 4.1.5 The interquartile range for motor trade sales in 2017 is given as 2440, verify showing the calculations whether the given interquartile range is correct? (4)
- 4.2 Daniel decides to send R1 200 to her sister who is studying in Japan. The exchange rate on that date is 1 yen = R0,10976
- 4.2.1 Calculate the amount of money he sends in Japanese yen. (2)
- 4.2.2 State whether the yen is stronger or weaker than the rand. (2)
- 4.3 Mr Daniel received a lump sum of R30 000,00 which he got from his employer for 25 years' service award. He invests this money at the bank which offers 4,2% interest rate per annum for 2 years compounded half yearly.
- 4.3.1 Calculate the interest rate per half year as a decimal. (3)
- 4.3.2 Calculate the total amount Mr Daniel will have in his investment after 2 years. (5)

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ANSWER SHEET 1**QUESTION 3.1.7****Types of voting stations used during the 2016 local government elections**

ANNEXURE A**QUESTIUN 2.2****EXTRACT FROM MR DANIELS' MONTHLY MUNICIPAL STATEMENT**

Mr KJ Daniels 14 Sirkoon Street Kruger Park 2738	Date: 2019/03/12 Statement for: March 2019
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STAND SIZE	NUMBER OF DWELLINGS	DATE OF VALUATION	PORTION	MUNICIPAL VALUATION	REGION
463 m ²	1	2018/07/01	R1	Market value R944 630,00	WARD C

ACCOUNT NUMBER: 345 678 8900 60

	SUBTOTAL (R)	TOTAL AMOUNT (R)
Water and sewer		
Reading period	2019/01/16 to 2019/02/12	
Meter reading	Start: 795 000 End: 807 000	
Water usage	12 kℓ (kilolitres)	
Daily average consumption	0,429 kℓ	
Charges for 12 kℓ are based on a sliding scale for a 28-day period		
Total water charge (excluding VAT)	B	
Water demand management levy	22,64	
Monthly sewer charge based on stand size (excluding VAT)	A	
VAT: 15%	73,75	

PAYMENT DUE	XXX
DUE DATE	2019/03/27

STEPPED RESIDENTIAL WATER TARIFF	
KILOLITRES PER CONNECTION PER MONTH	2018/19 TARIFF (R/kℓ) EXCLUDING 15% VAT
from 0 to 6	8,28
above 6 to 10	8,79
above 10 to 15	15,00
above 15 to 20	21,83

SEWER MONTHLY CHARGE BASED ON STAND SIZE	
STAND SIZE (m ²)	2018/19 TOTAL CHARGE (IN RAND) EXCLUDING 15% VAT
Up to and including 300 m ²	194,67
Larger than 300 m ² to 1 000 m ²	378,95
Larger than 1 000 m ² to 2 000 m ²	573,29
Larger than 2 000 m ²	836,02

ANNEXURE B**QUESTIUN 4.1****MOTOR TRADE SALES AT CURRENT PRICES (R MILLION) TABLE ADAPTED:**

MONTH	2015	2016	2017	2018
JAN	47 356	46 014	49 527	52 789
FEB	47 214	50 267	51 025	53 065
MAR	52 526	50 474	55 680	58 072
APR	46 637	50 155	46 625	49 316
MAY	48 474	51 893	53 465	55 832
JUNE	50 497	B	52 583	55 039
JULY	53 475	52 846	52 124	56 036
AUG	49 397	51 308	53 619	57 149
SEPT	50 975	51 029	53 127	53 776
OCT	51 618	51 704	56 411	59 841
NOV	51 509	53 843	58 029	59 766
DEC	48 944	50 119	53 070	50 938
TOTAL	A	610 190	635 285	661 619