



Subject: Grade 11 Maths Literacy

Topic: Mathematical Literacy: Term 2 - Exam 1

Total: 104 Marks

1. more money than | less money than

4 marks

Explanation:

Hannah spends 10% of R20 000

$$= 10\% \times 20\,000 = \text{R}2\,000$$

Hannah's parents' spend 10% of R45 000

$$= 10\% \times 45\,000 = \text{R}4\,500$$

Although they each budget to spend 10% of their income on Communication, Hannah's parent's budget to **spend more money** on Communication each month.

Hannah spends 25% of R20 000

$$= 25\% \times 20\,000 = \text{R}5\,000$$

Hannah's parents' spend 15% of R45 000

$$= 15\% \times 45\,000 = \text{R}6\,750$$

Although Hannah budgets to spend 25% of her Clothing and personal care and her parent's budget to spend only 15%, she will **spend less money** on Clothing and personal care each month.

2. B: R2 882, 50

4 marks

Explanation:

The 15% deposit is paid up front and must be subtracted before the interest is calculated:

$$15\% \times \text{R}2\,500 = \text{R}375$$

$$\text{R}2\,500 - \text{R}375 = \text{R}2\,125$$

$$12\% \text{ interest per year is } \text{R}2\,125 \times 12\% = \text{R}255$$

$$18 \text{ months is } 1\frac{1}{2} \text{ years}$$

$$\text{Interest for 18 months will be } \text{R}255 \times 1\frac{1}{2} = \text{R}382,50$$

The total amount paid will be the cash price plus the interest:

$$\text{R}2\,500 + \text{R}382,50 = \text{R}2\,882,50$$



3. A: R0,34

4 marks

Explanation:

The interest rate is 7% per annum and must be divided by 365 to determine the daily interest rate.

$$7\% \div 365 = 0,019178\% \text{ daily}$$

$$R1\,790,00 \times 0,019178\% = R0,34$$

4. R9,00 | R0,50 | R8,00

6 marks

Explanation:

Bank charges at the end of August, for the statement shown, will include:

- R9,00 for the withdrawal on 02/08/2021 as ABC Bank's ATM was used which is 'Withdrawals at other ATM'.
 - R0,50 for the EFT on the 21/08/2021 as that is the charge for any EFT transaction.
 - R8,00 for the monthly admin fee as this is charged every month.
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5. R6 999,00 | R6 299,10 | R12 480,00 | R13 179,10

8 marks

Explanation:

- The cash price is R6 999,00 as shown in the advertisement.
 - The loan amount is the remainder after the deposit is paid:
 $10\% \times R6\,999 = R699,90$
 $R6\,999 - R699,90 = R6\,299,10$
 - The real cost of the loan over the 30 months will be:
 $30 \times R416 = R12\,480,00$
 - The total cost of the lounge suite, if it is purchased on HP, is the total of the real cost and the deposit:
 $R12\,480 + R699,90 = R13\,179,10$
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6. B: August 2025

4 marks

Explanation:

March 2023 until February 2024 will be 12 months.
March 2024 until February 2025 will be 12 months.
March 2025 until August 2025 will be the last 6 months.

The final repayment will be in August 2025.

Explanation:

- 25 has been drawn the **most** as there are 3 fives in the row.
- The number that appears the **most** is called the **mode**.
- 27 (shown in red) is the sixteenth number out of 31 which means that it is the **middle** number when they are in order.
- The number in the **middle** when they are in order is called the **median**.

1	0	1	2	4	4	6	8		
2	0	0	3	4	5	5	5	6	7
3	1	4	8	9					
4	2	5	6	8	8				
5	1	1	3	6	8	9			

Explanation:

The 10% deposit is R1 760.

The cash price will be 100% of this value:

$$\text{Cash price} = 100 \div 10 \times \text{R1 760} = \text{R17 600}$$

The loan amount is the balance that remains of the cash price after paying the deposit:

$$\text{Loan amount} = \text{R17 600} - \text{R1 760} = \text{R15 840}$$

The real cost of the hire-purchase is the amount that is paid back over the 18 months:

$$\text{Real cost} = \text{R1 314, 19} \times 18 = \text{R23 655, 42}$$

The total cost is the full amount that is paid for the fridge:

$$\text{Total cost} = \text{deposit} + \text{real cost}$$

$$\text{Total cost} = \text{R1 760} + \text{R23 655, 42} = \text{R25 415, 42}$$

9. A: $A = 14$ and $B = 165 < h \leq 170$

4 marks

Explanation:

- There were 68 students in the sample. To calculate A :
 $68 - (2 + 4 + 5 + 26 + 17) = 14$
- B is the height interval **after** 165cm and so the 165 is **not included**: $165 < \dots$
- The height interval B **ends with** 170cm and so the 170 **is included**: $\dots \leq 170$

$$\therefore B = 165 < h \leq 170$$

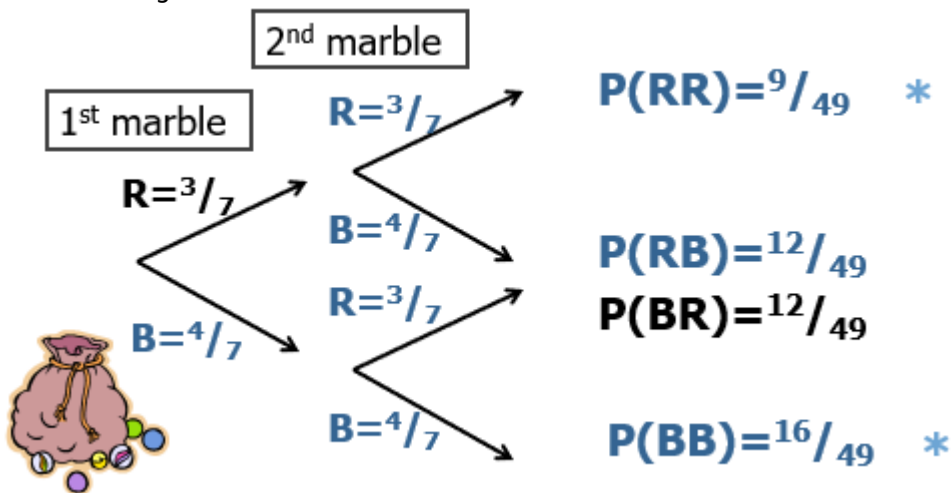
10. D: $\frac{25}{49}$

4 marks

Explanation:

The first marble is replaced before the second marble is taken from the bag so they are **independent events**.

The tree diagram for the events shows the probability of drawing each colour as there are 7 marbles altogether:



The probability of drawing **2 red** marbles is $\frac{3}{7} \times \frac{3}{7} = \frac{9}{49}$

The probability of drawing **2 blue** marbles is $\frac{4}{7} \times \frac{4}{7} = \frac{16}{49}$

The probability of drawing **2 marbles of the same colour** will be the combined probability of 2 red marbles or 2 blue marbles:

$$= \frac{9}{49} + \frac{16}{49} = \frac{25}{49}$$

11. Gauteng | Limpopo | Northern Cape

6 marks

Explanation:

- **Gauteng** is represented by the longest bar on the bar graph as there are 414, 27 million people living in Gauteng , which makes it the **largest** population.
- There are 9 provinces and so the fifth most populated province will have the **median** population. The bars of the bar graph are in order of population size and **Limpopo** is in the middle and will have the median population.
- **Northern Cape** is represented by the shortest bar on the bar graph as there are only 1, 21 million people living in the Northern Cape, which makes it the **smallest** population.

12. C: R23, 81

4 marks

Explanation:

No VAT is charged on the items with an asterix (*).

The amount which includes VAT

$$= R13, 99 + R32, 99 + R19, 99 + R82, 60 + R32, 99 = R182, 56$$

This total includes 15% VAT and is equivalent to 115%.

$$115\% = R182, 56$$

$$15\% = \text{VAT}$$

$$\text{Therefore VAT} = 15 \div 115 \times R182, 56 = R23, 81$$

13. C: The 171 – 175 cm interval will have more students than it had.

4 marks

Explanation:

- Boys are generally taller than girls, so there will be less students in the lower height intervals.
- Some of the 26 students in the 166 – 170 cm interval were probably girls and so it may have less students than it had.
- The 17 students in the 171 – 175 cm interval were probably all boys and so now that the 166 – 170 cm interval has less with the girls excluded, it may have the most students.
- No additional students were included in the data and so the 171 – 175 cm interval will NOT have more students than it had.

14. B: Stacked bar graph

4 marks

Explanation:

The graphical locations are **categorical** and so there are spaces between the bars which makes it a **bar graph**.

The sources of income which are being compared are **stacked** on top of each other which makes it a **stacked bar graph**.

Explanation:

- The smallest colour in **rural areas** is the turquoise at the top (2%), which is from **other sources**.
- The smallest colour overall in **South Africa** is the green (3%), which is from **Family**.
- The largest colour overall in **South Africa** is the blue (60%), which is from **Salaries**.

Explanation:

- R15 000 was invested in each investment initially.
- Investment B is a straight line so it is earning **simple interest**.
After 9 years the investment that is earning simple interest has a value of R39 050, the value in 2022.
- Investment A is a curved line so it is earning compound **interest**.
The investment which is earning compound interest has a value of R67 000, the value in 2022.
- This means that the compound interest investment earned R52 000 interest in 9 years.
 $R67\,000 - R15\,000 = R52\,000$

17. A: 5 years

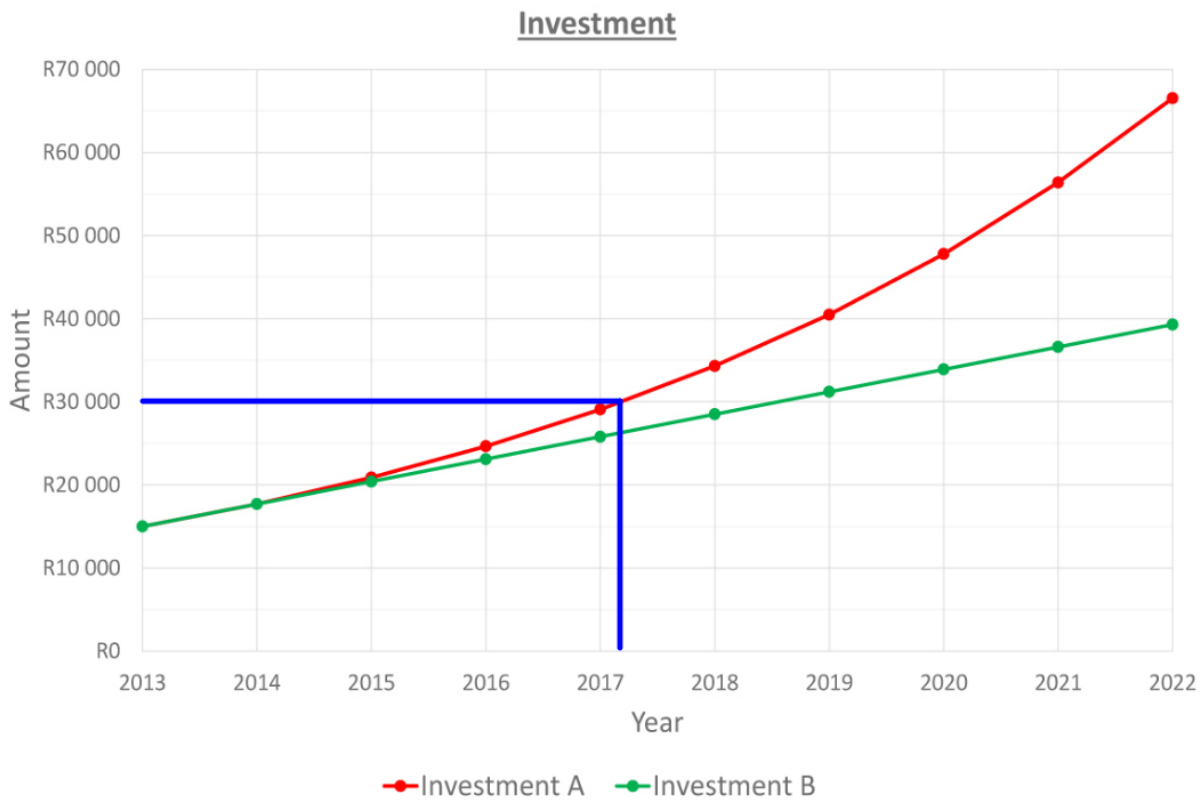
4 marks

Explanation:

Investment A was initially R15 000. It will have **doubled** when it reaches R30 000.

By following the horizontal line on the graph below to Investment A and then reading the value vertically, it can be seen that Investment A will reach R30 000 after 2017.

2017 to 2018 will be the **fifth year** and so we say that it takes 5 years to double.



18. Numerical | Discrete

4 marks

Explanation:

The shopping items were counted which gives a number.

- Since the data is **numbers** it is **numerical**.
- Since the data is **counted** and does not include parts it is **discrete**.

19. debit | debited | credited

6 marks

Explanation:

- A **debit** balance is an account balance where there is a positive balance. The client has money in the account.

On 1 January 2022 there was R12 890 in the account.

- An account is **debited** when money is taken out of an account to pay for something and the balance is **reduced**.

On 25 January 2022 bank charges of Timeout waiting for MathJax: restarting were taken out of the account by the bank which reduced the balance.

- An account is **credited** when money is put into an account and the balance is **increased**.

On 29 January 2022 interest of R65 was deposited by the bank which increased the balance.

20. D: R187, 35

4 marks

Explanation:

Hloni's average use is less than 450 kWh per month so she will be charged using the rates on the left of the table.

The first 150 kWh will be charged in the first bracket at a rate of 64, 93c/kWh

$$64, 93\text{c/kWh} \div 100 = \text{R}0, 6493/\text{kWh}$$

$$150 \times \text{R}0, 6493 = \text{R}97, 395$$

The remaining 100 kWh used will be charged in the second bracket at a rate of 89, 95c/kWh

$$89, 95\text{c/kWh} \div 100 = \text{R}0, 8995/\text{kWh}$$

$$100 \times \text{R}0, 8995 = \text{R}89, 95$$

The total will be the amount from each bracket added together:

$$\text{R}97, 395 + \text{R}89, 95 = \text{R}187, 50$$

Total: 104 Marks