



QUESTION 1

- 1.1 Bugs Bunny has R9000 in his savings account. Calculate the amount of money in the savings account after 15 years if it earns 7,25% simple interest p.a. (3)

$A = ?$ $P = 9000$ $i = 7,25\% \text{ simple}$ $n = 15$	$A = P(1 + i \cdot n) \checkmark$ $= 9000 \left(1 + \frac{7,25}{100} \times 15\right) \checkmark$ $= R18\,787,50 \checkmark$	S1701	
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- 1.2 Sylvester invest R17 560 in an account that offers 19% compound interest p.a. Calculate the amount of money in the savings account after 15 years. (3)

$A = ?$ $P = 17\,560$ $i = 19\% \text{ compound}$ $n = 15$	$A = P(1 + i)^n \checkmark$ $= 17560 \left(1 + \frac{19}{100}\right)^{15} \checkmark$ $= R238\,632,14 \checkmark$	S1701	
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- 1.3 Tweety has an investment of R35 000. He would like to double his investment in 12 years. What must the interest rate be if it is compounded annually? (4)

$A = 70\,000$ $P = 35\,000$ $i = ?\% \text{ comp.}$ $n = 12$	$A = P(1 + i)^n \checkmark$ $70\,000 = 35\,000(1 + i)^{12} \checkmark$ $(1 + i)^{12} = \frac{70\,000}{35\,000}$ $1 + i = \sqrt[12]{2} \checkmark$ $i = \sqrt[12]{2} - 1$ $= 0,05946$ $= 5,95 \checkmark$	S1702	
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- 1.4 Daffy Duck deposits R14 953 in a fixed deposit account which pays 11% p.a. simple interest. For how long must the amount be deposited if he wishes to withdraw R24 000 at the end of the investment period? (4)

$A = 24\,000$ $P = 14\,953$ $i = 11\% \text{ simp.}$ $n = ?$	$A = P(1 + i \cdot n) \checkmark$ $24\,000 = 14\,953 \left(1 + \frac{11}{100} n\right) \checkmark$ $1 + \frac{11}{100} n = \frac{24\,000}{14\,953}$ $\frac{11}{100} n = \frac{24\,000}{14\,953} - 1 \checkmark$ $n = \frac{100}{11} \left(\frac{24\,000}{14\,953} - 1\right)$ $= 5,5 \text{ years} \checkmark$	S170	
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QUESTION 2

S1703

Johnny bravo bought a new lounge suite for R12 000 on a hire purchase plan. He must pay 15% deposit and the balance over 24 months at 8% simple interest p.a. He must also pay an amount of R80 per month for insurance.



2.1 Calculate his monthly payment.

(5)

Deposit:

$$12\,000 \times \frac{15}{100} = 1\,800 \quad \checkmark$$

Remaining balance:

$$12\,000 - 1\,800 = 10\,200 \quad \checkmark$$

Amount with interest:

$$A = 10\,200 \left(1 + \frac{8}{100} \times 2 \right) \\ = R11\,832 \quad \checkmark$$

Monthly payments:

$$(11\,832 \div 24) + 80 \\ = R573 \quad \checkmark$$

2.2 Calculate the total amount paid for the lounge suite

(2)

$$1\,800 + 11\,832 + (80 \times 24) \quad \checkmark \\ = R15\,552 \quad \checkmark$$

[7]

QUESTION 3

- 3.1 In 2012 Deedee broke into Dexter's lab to use his time-traveling machine so that she can go back in time to buy herself ice-cream for cheaper. She decides to go to the year 1992. If an ice-cream cost R10 in 2012 and the average rate of inflation is 3,8%, how much money must she take with her?



(4)

$$A = 10$$

$$P = ?$$

$$i = 3,8\% \text{ comp.}$$

$$n = 20$$

$$A = P(1 + i)^n \quad \checkmark$$

$$10 = P \left(1 + \frac{3,8}{100}\right)^{20} \quad \checkmark$$

$$P = \frac{10}{\left(1 + \frac{3,8}{100}\right)^{20}} \quad \checkmark$$

$$= R4,74 \quad \checkmark$$

S1704

- 3.2 Every 5 years Tom invites his entire family for a cat family reunion. In 1995 his family of cats were 62 cats. The average increase for a cat population is 18% per year. How many cats will be in their 2025 family reunion?



(3)

$$A = ?$$

$$P = 62$$

$$i = 18\% \text{ compound}$$

$$n = 30$$

$$A = P(1 + i)^n \quad \checkmark$$

$$= 62 \left(1 + \frac{18}{100}\right)^{30} \quad \checkmark$$

$$= 8888,98$$

$$= 8889 \text{ cats} \quad \checkmark$$

S1705

QUESTION 4

S1706

In order to save the day, the Power Puff Girls need to buy a jar of pickles for the Mayor of Townsville. They decide to each fly to a different country.

Britain	Australia	India
 <p>Vlasic Ovals Hamburger Dill Pickle Chips - 16fl.oz (473ml) £3.79</p>	 <p>Delicious Not So Sweet Halves \$16.00</p>	 <p>Mango Pickle Rs. 350.00</p>

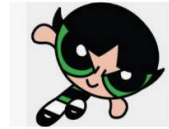


The table below lists the exchange rates of various countries with the South African Rand.

Foreign Currency	Abbreviation	The cost in rand (ZAR) for one unit of foreign currency.
United States dollar	USD	17,28
British Pound	GBP	19,89
Euro	EUR	17,28
Australian dollar	AUD	11,68
Japanese yen	JPY	0,12
Russian rouble	RUB	0,28
Indian rupee	INR	0,22

4.1 Buttercup flew to Britain and bought a jar for £3.79. Convert the cost to South African rand. (2)

$$\begin{aligned} & \text{£}3,79 \times \frac{R19,89}{\text{£}1} \quad \checkmark \\ & = R 75,38 \quad \checkmark \end{aligned}$$



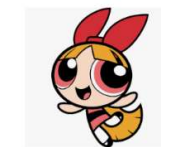
4.2 Bubbles flew to Australia and bought a jar for \$16.00. Convert the cost to South African rand. (2)

$$\begin{aligned} & \$16 \times \frac{R11,68}{\$1} \quad \checkmark \\ & = R 186,88 \quad \checkmark \end{aligned}$$



4.3 Blossom flew to India and bought a jar for Rs. 350.00. Convert the cost to South African rand. (2)

$$\begin{aligned} & \text{Rs. } 350 \times \frac{R0,22}{\text{Rs.}1} \quad \checkmark \\ & = R 77 \quad \checkmark \end{aligned}$$



4.4 Who paid the most for their jar of pickles? (1)

Bubbles \checkmark

[7]