

Form 3 Mathematics Test

Test 4: Money

Total: 50 marks

Name: _____ Date: _____

Section A

Write down the correct letter for each of the following questions.

1. What is the correct term for the decrease in the financial value of an item over a period of time as a result of wear and tear, or age?
A interest
B inflation
C depreciation
D appreciation
2. What is the correct term for the measure of the increase in the general level of prices in a particular country over a period of time?
A income tax
B cost of living
C appreciation
D inflation
3. What is the formula for simple interest?
A $A = P(1 + ni)$
B $A = P(1 - ni)$
C $A = P(1 + i)^n$
D $A = P(1 - i)^n$

4. What is the formula for compound interest?

A $A = P(1 + ni)$

B $A = P(1 - ni)$

C $A = P(1 + i)^n$

D $A = P(1 - i)^n$

5. What is the formula for straight-line depreciation?

A $A = P(1 + ni)$

B $A = P(1 - ni)$

C $A = P(1 + i)^n$

D $A = P(1 - i)^n$

6. What is the formula for reducing-balance depreciation?

A $A = P(1 + ni)$

B $A = P(1 - ni)$

C $A = P(1 + i)^n$

D $A = P(1 - i)^n$

7. What is the formula for straight-line appreciation?

A $A = P(1 + ni)$

B $A = P(1 - ni)$

C $A = P(1 + i)^n$

D $A = P(1 - i)^n$

8. What is the formula for increasing-balance appreciation?
- A $A = P(1 + ni)$
 - B $A = P(1 - ni)$
 - C $A = P(1 + i)^n$
 - D $A = P(1 - i)^n$
9. In the formulae for calculating simple and compound interest, which variable represents the amount invested or borrowed?
- A A
 - B P
 - C i
 - D n
10. If interest is compounded every six months, how will this affect the values of i and n ?
- A $i = \text{the annual interest rate} \times 6$ and $n = \text{the number of years} \div 6$
 - B $i = \text{the annual interest rate} \div 6$ and $n = \text{the number of years} \times 6$
 - C $i = \text{the annual interest rate} \times 2$ and $n = \text{the number of years} \div 2$
 - D $i = \text{the annual interest rate} \div 2$ and $n = \text{the number of years} \times 2$

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Section B

Do not use a calculator to answer these questions.

Show all your calculations.

11. Malebogo invests P1 000 at 12% compound interest p.a. What will her investment be worth after one year? (3)

12. Thuso borrows P5 000 at 10% compound interest p.a. How much interest will he owe at the end of the first year? (3)

13. Start off with the formula $A = P(1 + i)^n$ and use your knowledge of algebra to derive the following formula: $i = \sqrt[n]{\frac{A}{P}} - 1$ (3)

14. The price of a new sound system is P3 000. If the value of the sound system depreciates according to straight-line depreciation at a rate of 10% per year, what will the value of the sound system be after five years? (3)

15. A trolley of groceries that cost P750 five years ago now costs P1 000. Calculate the percentage increase in the price. (3)

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Section C

You may use a calculator to answer these questions.
Show all your calculations.

16. Isaac takes out a loan of P45 400 at 8.5% interest p.a. What will he owe after six years, if the interest is compounded on a monthly basis? (5)

17. Mrs Mocketse invested P75 000, with interest compounded quarterly. After 9 months, her investment had earned P5 816.19 in interest. What was the annual interest rate of the investment? (6)

18. A minibus costs P225 000. What will its book value be after five years, if the annual rate of depreciation is 10.25% and the depreciation applied is: (8)

- a) straight-line depreciation
b) reducing-balance depreciation?

19. A trolley of groceries that cost P850 four years ago now costs P1 053. Calculate the annual inflation rate. (Assume a constant annual inflation rate.) (6)

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Total: 50