Test on Percentages

Time allowed: 20 minutes.

Total mark: 18
Answer only question 1 to question 4.
[Question 5 is a bonus question.]

1.   The value of a watch depreciates 8% every half year after it is first launched. Find the overall percentage change in the value of the watch 3 years after it is launched. (Correct the answer to one decimal place.)

(3 marks)

2. $10000 is deposited in a bank A at an interest rate of 6% p.a. compounded every 2 months.
    (a)   Find the amount and the interest received after 3 years. (Correct the answers to the nearest dollar)
    (b)   If the same principal is put into another bank B at a simple interest rate of 7% p.a., which bank yields a larger amount?
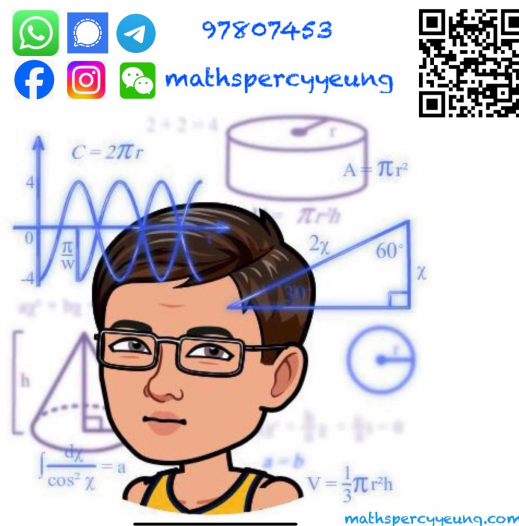
(5 marks)

3.   An earphone is worth $800 now and its depreciation rate is 10% every half year. Find, correct to the nearest dollar, the value of the earphone
    (a)   2 years later,
    (b)   3 years ago.
    (Correct the answers to 2 decimal places.)

(4 marks)

4.   Johnny has deposited a sum of money in a bank at a <u>simple interest</u> at the beginning of year 2025. The interest rate is 3% p.a. for the first year and 4% p.a. starting from the second year.
    If he receives an interest of $880 after 3 years,
    (a)   find the sum of money deposited in the bank.
    (b)   at the end of which year will he obtain an amount of $13120.

(6 marks)

5. The table below shows the salaries tax rate for the financial year 2024/25:

Net chargeable income	Tax rate
On the first $40000	2%
On the next $40000	7%
On the next $40000	12%
Remainder	17%

In the year 2024/25, the net chargeable income of Benny is $195000. He has to pay the salary tax on or before 7th April 2026.

(a) Find his salaries tax payable.

(3 marks)

(b) Benny first considers borrowing $24000 from Bank A and the interest rate is 12% p.a. compounded monthly. In each successive month, the loan interest is calculated based on the outstanding balance and a monthly instalment of $8000 is paid to the bank until the loan is fully paid. (The last monthly instalment may be less than $8000)

(i) Find the amount he still owes the bank after the first instalment.

(ii) Find the amount he needs to pay for the last instalment.

(iii) Find the total interest he has paid.

(Correct the answers to the nearest dollars in (ii) and (iii))

(7 marks)

(c) Mary, one of Benny's friends, suggests that Benny can pay the salary tax by saving a fixed amount of money in Bank B three months before paying the tax. Bank B offers an interest rate of 8% p.a. compounded monthly.

> · On 6th January 2026, Benny deposits $7000 into his account.
> · After one month, on 6th February 2026, Benny deposits another $7000 in his account.
> · On 6th March 2026, Benny makes a final deposit of $7000, and plans to take out all the saving from the account on 6th April 2026.

Can Benny have enough money from his account to pay the salary tax calculated in (a)? Explain your answer.

(4 marks)

END OF PAPER