Simple and Compound Interest

1. Find the simple interest earned on \$6000 at 12% pa for 5 years.

2. A new car, valued at \$28 000, depreciates at 9% pa. Find the value of the car 3 years after purchase.

$$A = P(1-r)^{T} R = 9\%$$

$$A = 28000(1-9\%)^{3}$$
Value after 3 urs
$$= 921099.9\%$$

Successfully applied the simple interest formula and recognised that depreciation decreases the value of an item

Harley

3. (a) Using the compound interest formula, find the amount that \$5000 will grow to when invested at a rate of 12% pa for 2 years, compounded quarterly.

$$P = 5000$$

$$R = 12%$$

$$T = 2$$

$$P(1+r)T = $6272 + 4 (quartley)$$

$$5000(1+12\%)^{2} \times 4(quartley)?$$

$$F(1+r)T = $1568$$

Indicated an understanding of components of the compound interest formula, but incorrectly applied the concept of quarterly interest

(b) Find the interest earned.

$$5000 + 6272$$

Interest earned
= \$ 11272.

4. \$240 interest is earned on a principal of \$1500 at a simple interest rate of 4% pa. For how many years was the principal invested?

I=240 interest earned P=1500 R=4% per year $\frac{240}{1500} = \frac{1500 \times 4\%}{1500 0.16 \times 4\%}$

Attempted to apply the simple interest formula to calculate the number of years the principal was invested Stephen bought a car for \$12 400 on the following terms: 15% deposit 18% pa simple interest

Repayments made monthly for 2 years

- (a) How much was the deposit?
 - 12400× 15%
 = 1860, yes
 12900-1860
 deposit= €10540
- (b) What was the balance owing after payment of the deposit?
 - $= \pm 2232.$
- (c) How much interest was charged on the balance?

13%. # 12400-2232 interest charged on the balance = \$10158

(d) What was the total amount of Stephen's repayment over the 2 years?



(e) What was the amount of each monthly repayment?

Monthly payment=

35340+24

calculating the deposit

Indicated an understanding of

Harley

Work Sample

Attempted to calculate the interest on the balance owing

Attempted to add the deposit and balance owing. Recognised the need to convert years into months to determine the monthly repayments

Grade Commentary

Harley demonstrated some knowledge and understanding of simple and compound interest. The response applied simple and compound interest formulae to familiar problems, recognising the need to convert rates and periods, however the final calculations are incorrect. Harley attempted to apply some knowledge and processes in the calculation of the amount paid for an item purchased on terms. This work sample demonstrated characteristics of work typically produced by a student performing at a grade D4 level.