

## LC 2014 (SET C): PAPER 1

### QUESTION 7 (35 MARKS)

#### Question 7 (a)

It depreciates by 15% each year. Multiply the value of the car by 0.85 for each of the 4 years.

$$\begin{aligned} \text{Value of car (1}^{\text{st}} \text{ July 2014)} &= €20\,000 \times 0.85 \times 0.85 \times 0.85 \times 0.85 \\ &= €20\,000(0.85)^4 \approx €10\,440 \end{aligned}$$

#### Question 7 (b) (i)

$$\begin{aligned} \text{Amount owed} &= \text{Price of new car} - \text{trade-in amount} \\ &= €24\,000 - €10\,500 = €13\,500 \end{aligned}$$

She borrows €13 500 at 11.5% for one year.

$$\text{Amount repayable at end of year} = €13\,500 \times 1.115 = €15\,052.50$$

#### Question 7 (b) (ii)

$$\begin{aligned} \text{Amount owed} &= \text{Price of new car} - \text{trade-in amount} \\ &= €24\,000 - €10\,000 = €14\,000 \end{aligned}$$

She pays back €4000 after 6 months which means she owes €10 000.

$$\text{Amount repayable at end of year} = €10\,000 \times 1.015^6 = €10\,934.43$$

#### Question 7 (b) (iii)

*Buy Right Car Sales*

$$\text{Amount repaid} = €15\,052.50$$

*Bargain Deals Car Sales*

$$\text{Amount repaid} = €10\,934.43 + €4000 = €14\,934.43$$

**ANSWER:** She should choose *Bargain Deals Car Sales*.

#### **MARKING SCHEME NOTES**

##### **Question 7 (a) [Scale 10C (0, 3, 7, 10)]**

- 3: • Writes correct formula without further work of merit  
 • Use of appreciation method  
 • Calculates 15% of an amount correctly
- 7: • Correct substitution into correct formula but errors in working out  
 • Calculates the amount at the end of each of 4 years, but with errors  
 • Calculates the amount at the end of each of 3 years, and stops

##### **Question 7 (b) (i) [Scale 10C (0, 3, 7, 10)]**

- 3: • Calculates the balance to be borrowed and stops  
 • Calculates 11.5% of an amount correctly
- 7: • Calculates interest only  
 • Calculates amount before deducting €10 500

##### **Question 7 (b) (ii) [Scale 5C (0, 2, 3, 5)]**

- 2: • Calculates amount to be repaid at end of 6 months  
 • Calculates 1.5% of an amount correctly  
 • Uses Simple Interest
- 3: • Correct substitution into correct formula but with errors  
 • Calculates 1.5% of an incorrect relevant figure correctly for 6 months  
 • Principal correct and calculates correctly for 3 or more months

##### **Question 7 (b) (iii) [Scale 10B (0, 5, 10)]**

- 5: • Correct conclusion with no justification  
 • Correct conclusion from incorrect total repayment(s)