

## LC 2017: PAPER 1

**QUESTION 1 (25 MARKS)****Question 1 (a)**

$$P = \text{€}30\,000, i = 0.15, t = 5 \text{ years}$$

$$F = P(1 - i)^t$$

$$\begin{aligned} F &= P(1 - i)^t = 30\,000(1 - 0.15)^5 \\ &= 30\,000(0.85)^5 \\ &= \text{€}13\,311.16 \end{aligned}$$

**Question 1 (b)**

$$F = \text{€}30\,000, i = 0.03, t = 2 \text{ years}, P = ?$$

$$F = P(1 + i)^t$$

$$F = P(1 + i)^t \Rightarrow 30\,000 = P(1 + 0.03)^2$$

$$30\,000 = P \times 1.03^2$$

$$P = \frac{30\,000}{1.03^2} = \text{€}28\,277.88$$

**Question 1 (c)**

$$P = \text{€}25\,000, t = 3 \text{ years}, F = \text{€}26\,530.20, i = ?$$

$$F = P(1 + i)^t \Rightarrow 26\,530.20 = 25\,000(1 + i)^3$$

$$\frac{26\,530.20}{25\,000} = (1 + i)^3 \Rightarrow 1.061208 = (1 + i)^3$$

$$1 + i = \sqrt[3]{1.061208} = 1.02$$

$$i = 0.02$$

$$r = 2\%$$


---