

Ex 5.1

Q4 $(1+r)^{12} = 1+i$

(i) 6% : $(1+r)^{12} = 1.06$

$$r = (1.06)^{1/12} - 1$$

$$r = 0.0048676$$

$$r = ~~4.86~~ 0.49\% \text{ (2 Dec pl)}$$

(ii) 2.5% : $(1+r)^{12} = 1.025$

$$r = (1.025)^{1/12} - 1$$

$$r = 0.0020598$$

$$r = 0.21\% \text{ (2 Dec pl)}$$

(iii) 4% : $(1+r)^{12} = 1.04$

$$r = (1.04)^{1/12} - 1$$

$$r = 0.0032737$$

$$r = 0.33\% \text{ (2 Dec pl)}$$

Q5

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

$$5607.82 = 4500(1+i)^5$$

$$1.246182 = (1+i)^5$$

$$\sqrt[5]{1.246182} - 1 = i$$

$$0.045 = i$$

$$\Rightarrow 4.5\% = \text{AER.}$$

Q7 $i = 0.04$

$$(1+r)^2 = 1.04$$

$$r = \sqrt{1.04} - 1$$

$$r = 0.0198039$$

$$r = 1.980\% \text{ half yearly rate.}$$

Q8 $F = P(1+i)^t$

6 yrs 4 months = 76 months

$$F = 6500(1.01932)^{76}$$
$$= \text{€} 27830.10$$

Q10 $4.2\% = 0.042$ 10 yrs 10,000

$$P = \frac{F}{(1+i)^t}$$

$$P = \frac{10,000}{(1.042)^{10}}$$

$$= \text{€} 6627.09$$

Q12 50,000 $3.5\% = 0.035$ Double = 100,000

$$100,000 = 50,000(1.035)^t$$

$$2 = 1.035^t$$

$$\log 2 = t \log 1.035$$

$$\frac{\log 2}{\log 1.035} = t$$

$$20.15 \text{ yrs} = t$$