4. What monthly rate of interest, correct to 2 places of decimals, is equivalent to an annual rate of (i) 6% (ii) 2.5% (iii) 4% ?

let i = AER
R = MER

$(1+R)^{12} = (1+i)^1$

$\Rightarrow R = \sqrt[12]{1+i} - 1$

(i) $R = \sqrt[12]{1.06} - 1 = 0.004867$
$\approx 0.49\%$

(ii) $R = \sqrt[12]{1.025} - 1 = 0.0020598$
$\approx 0.21\%$

(iii) $R = \sqrt[12]{1.04} - 1 = 0.003327$
$\approx 0.33\%$

9. €12 000 is invested at an AER of 3.5%.
Find the value of the investment after
(i) 5 years 3 months (ii) 8 years 2 months (iii) 10 years 6 months.

let i = AER
R = MER

$R = \sqrt[12]{1+i} - 1$

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

Convert AER to MER?

$R = \sqrt[12]{1.035} - 1 = 0.00287$

(i) $P = 12000$ $R = 0.00287$ $t = 63$

$F = 12000(1.00287)^{63}$
$= €14,375.34$