

| Principal (original amount) | Interest rate (per year) | Years    | Final amount |
|-----------------------------|--------------------------|----------|--------------|
| £1000                       | 2%                       | 5        | <i>a</i>     |
| <i>b</i>                    | 3.5%                     | 6        | £2950.21     |
| £2000                       | <i>c</i>                 | 10       | £3000        |
| £1200                       | 4%                       | <i>d</i> | £2400        |

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### Solutions

$$a = 1000 \times 1.02^5 = \mathbf{£1104.08}$$

$$b = 2950.21 \div 1.035^6 = \mathbf{£2400.00}$$

$$c = 1 - \left(\frac{3000}{2000}\right)^{\frac{1}{10}} = \mathbf{4.138\%}$$

$$d = \log_{1.04} \left(\frac{2400}{1200}\right) = \mathbf{17.67 \text{ years (or 17 years, 246 days)}}$$