GCSE - Numeracy and Mathematics Topic: AER and APR	Tier: Higher	Grade: A/A*	

Starter

1) 3.25% of £2,400 =

2) 7.9% of £8,000 =

3) 6.34% of £5,800 =

Top Tips!

Formula to calculate AER: $AER = (1 + \frac{i}{n})^n - 1$

i is the interest rate as a decimal
n is the number of times the interest is paid throughout one year.

This formula is given in the formula list in your exam paper.

Skills:

1. Erin has applied for a loan of £7,500. They offer her a personal APR of 6.2%. How much does the personal APR cost?

2. A savings account has quoted an interest rate of 7.8% that pays interest on a monthly basis. Calculate the AER of this account.

Examination Question: 2016 January Link Applications U2 Higher Q5

Ceri has £20 000 to invest towards her retirement. She plans to retire in 13 years' time.

There are a number of investment accounts available, as shown in the table below. These accounts have fixed interest rates and any money must be invested for the complete time period stated.

Investment account in	AER	Minimum investment (£)	Maximum investment (£)	Fixed term for the investment (years)
Herenow Bank	2·2%	10 000	50 000	12
Denford Building Society	2·7%	15 000	30 000	10
Dreadly Bank	3·7%	25 000	40 000	10

In which bank or building society should Ceri invest her £20000 to make the most of her investment? You must justify your answer by showing all calculations. [7]

Assessment for Learning

Video / QR code

GCSE - Numeracy and Mathematics Topic: AER and APR	Tier: Higher	Grade: A/A*	GwE

Starter

1) 3.25% of £2,400 = £78

2) 7.9% of £8,000 = £632

3) 6.34% of £5,800 = £367.72

Top Tips!

Formula to calculate AER: $AER = (1 + \frac{i}{n})^n - 1$

i is the interest rate as a decimal
n is the number of times the interest is paid throughout one year.

This formula is given in the formula list in your exam paper.

Skills:

1. Erin has applied for a loan of £7,500. They offer her a personal APR of 6.2%. How much does the personal APR cost?

   6.2% of £7,500 = £465

2. A savings account has quoted an interest rate of 7.8% that pays interest on a monthly basis. Calculate the AER of this account.

   $AER = \left(1 + \frac{0.078}{12}\right)^{12} - 1$

   AER = 0.080849…

To convert to a percentage, multiply by 100,

   AER = 8.08498…

   AER = 8.08% (2 decimal places)

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In which bank or building society should Ceri invest her £20000 to make the most of her investment? You must justify your answer by showing all calculations. [7]

Herenow Bank – 20,000 x 1.022^{12} = £25968.13

Denford Building Society – 20,000 x 1.027^{10} = £26105.645….

Denford, with a remaining 2 years to invest somewhere.

Assessment for Learning

Video / QR code