Test

11

The End of Year 11

Higher Tier

Time: 45 minutes

With a calculator

Name: .....

Class: .....

Teacher: .....

Instructions

1. Answer **all** questions on the spaces provided.
2. The number of marks for each question is shown in square brackets.
3. You should give details of your method of solution when appropriate.
4. Scale drawing solutions will not be acceptable where you are asked to calculate.

Teacher only

1. The solution to the equation $x^3 - 9x - 14 = 0$ is between 0 and 10.

   (a) Find this solution correct to 1 decimal place.

Answer: .....

[4]

(b) Find this solution correct to 2 decimal places.

Ateb: .....

[3]

Teacher only

2. Sarah intends to invest £6,000 into a savings account for one year.
Barclays bank offer a nominal interest rate of 2.4% a year, with interest to be paid every month.

(a) Calculate the AER for Barclays' offer.
Give your answer correct to two decimal places.

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…… [4]

(b) If Sarah chooses to invest her money with Barclays for one year, how much money will be in her account at the end of the year?

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…… [2]

(c) HSBC bank offer a nominal interest rate of 2.6% a year, with interest to be paid every quarter. Should Sarah choose to invest her money in this account, rather than with Barclays?

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…… [4]

(d) Explain why banks use AER.

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…… [1]

Teacher only

3. Heddwyn invests £750 with Lloyds bank at an AER of 3.1%.
How much money will Heddwyn have in the bank after 5 years?

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[3]

4. Six years ago, Ann invested a sum of money into Santander bank at an AER of 3.75%. The money is now worth £6,235.89. What is the minimum amount of money that Ann had to invest in order to accomplish this?

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[3]

5. Elin intends to borrow £12,500 from the company LoanQueen.
The company offers an interest rate of 2.4% a month, and charges an annual fee of £150 to use the account.

(a) How much interest will this loan accrue over a period of one year?

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[3]

(b) Calculate the APR for this loan.

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[3]

Grand Total ___ out of 30 %