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| **MATHEMATICS DEPARTMENT** | |  |
| **Course:** **ATMAA** | |
| **Topic Title**: **Skills Test 8** | |
| Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_2016 | | |
| Special Instructions: Calculators Allowed | Time Allowed: 30 mins | | |
|  | Marks: / 15 | | |

**Question 1 (2 marks)**

Sharon invests $1700 at 6.2% p.a. simple interest. How much will she have in 9 months?

**Question 2 (4 marks)**

Sierra purchases an entertainment system worth $4700, on terms. She paid $900 deposit and 7.2% p.a. flat rate interest on the balance. She pays the balance in equal monthly instalments over 1 year.

Find the amount of each monthly instalment.

**Question 3 (1 mark)**

Renee wants to earn $1000 interest in 2 years. She invests in an account earning 9.8% p.a. simple interest. How much would she need to invest? Answer to the nearest one hundred dollars.

**Question 4 (2 marks)**

Bradley invests $8000 in an account paying 7.8% p.a. compounded yearly.

a) Write a recurrence relation that represents the above information.

b) Find the value of his investment at the end of 3 years.

**Question 5 (1 mark)**

How long will $45 000 need to be invested at 9.1% p.a., compounded six monthly, in order

to earn $10 000 interest?

**Question 6 (5 marks)**

Alex was looking to invest money over 7 years. He is comparing different investment accounts.

* Account 1 : 8.6% p.a. simple interest.
* Account 2 : 8.6% p.a. compounded annually

a) The accounts have the same interest rate per annum but Account 2 earns more interest.

Explain why.

Alex was considering another account:

* Account 3 : 8.4% p.a. compounded monthly.

b) Calculate the effective interest rate for Accounts 2 and 3.

c) Which is the best option for Alex? Explain.