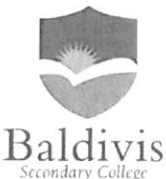


Name:	Adam Johnny Ismail		SCORE:	25 / 25
Class:	Math			
	Year 12 Essential Mathematics Unit 2 Mini Test 7 2018 Topic – Interest			
	<u>Full working out MUST be shown to get full marks for each question.</u>			
Total Time:	30 minutes			
Weighting:	5%			
Equipment:	To be provided by the student: Pen, pencil, ruler, scientific calculator, 1 single sided page of A4 notes			

1. Find the simple interest on the following amounts

[2 + 2 = 4 Marks]

- a. \$4500 at 10% for 5 years

$$4500 \times 0.1 \times 5 = \$2250$$

- b. 12,000 at 7.5% for 2.5 years

$$12,000 \times 0.075 \times 2.5 = \$2250$$

2. Find the missing variable in the following equations:

[2 + 2 + 2 = 6 Marks]

- a. Sam earned \$55 simple interest at 2% for 5 years, how much was the principle amount?

$$\frac{55}{(0.02 \times 5)} = \$550$$

- b. Shaun earned \$1485 from a principle of \$4500 across 3 years. What was the simple interest rate?

$$\frac{1485}{(4500 \times 3)} = 0.11 \quad R = 11\%$$

- c. Shauna earned \$675 on a principle of \$1,500 at 7.5% simple interest across some years. What was the number of years?

$$\frac{675}{(1,500 \times 0.075)} = 6 \text{ years.}$$

3. Madeline invests in a compound interest fund at 10% (compounded yearly), for 15 years, and puts \$8,000 in as principle. What is the value of the account after 15 years?

[3 Marks]

$$8,000 \times (1 + 0.1)^{(15)} = \$33,418$$

4. Madeline finds another account with the same interest rate, but compounds twice per year. She puts another \$8000 in for 15 years.

[3 + 1 = 4 marks]

- a. How much does she make after 15 years?

$$8,000 \times \left(1 + \frac{0.1}{2}\right)^{(15 \times 2)} = \$34,575$$

- b. Comparing your answer with question 3, which account is better.

The second account.

5. Alex buys a work ute for \$55,990 that she depreciates for 5 years at 8%.

[2 + 3 = 5 marks]

- a. How much would Alex lose after one year?

$$55,990 \times (1 - 0.08)^{(1)} = \$36,901$$

(\$19,088) lost

- b. How much would he lose after the 5 years?

$$55,990 \times (1 - 0.08)^{(5)} = \$31,510$$

(\$24,479) lost

END OF ASSESSMENT