Year 9X Advanced Task

| $I = PRT$ | $A = P(1+R)^n$ | $A = P(1-R)^n$ |

PART 1 INTEREST (10 marks)

1. Find (to the nearest cent) the simple interest on $1050 at 7½ % p.a. over 5 years.   **1**

2. Tracy invests $8500 for 3 years at 12% per annum and interest is compounded annually.

   (a)   Find the total value of the investment.   **2**

   (b)   How much interest has she earned.   **1**

3. Holly invested $4600 at a rate of 12% p.a. for 4 years compounded monthly. Find how much the investment is worth at the end of this period.   **2**

4. Rachel buys a car for $20000. It depreciates for 5 years at 12% per annum. Find the value of the car after 2 years.   **2**

5. Explain in words why compound interest is a better form of interest for you to get, than simple interest.   **2**

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$I = PRT$	$A = P(1+R)^n$	$A = P(1-R)^n$

PART 1 INTEREST (10 marks)

1. Find (to the nearest cent) the simple interest on $1050 at 7½ % p.a. over 5 years. **1**

$$1050 \times 0.075 \times 5$$

$$= \$393.75$$

✓

2. Tracy invests $8500 for 3 years at 12% per annum and interest is compounded annually.

   (a) Find the total value of the investment. **2**

   $$8500 (1+0.12)^3$$

   $$A = \$11941.89$$

   (b) How much interest has she earned. **1**

   $$11941.89 - 8500$$

   $$= \$3441.89$$

3. Holly invested $4600 at a rate of 12% p.a. for 4 years compounded monthly. Find how much the investment is worth at the end of this period. **2**

   $$4600 (1+0.12)^{48}$$

   $$= \$ \cancel{7235.54}$$

   $$= \$1059797.57 \quad \times \times$$

4. Rachel buys a car for $20000. It depreciates for 5 years at 12% per annum. Find the value of the car after 2 years. **2**

   $$20000 (1 - 0.12)^2$$

   $$A = \$15488.00 c \quad \checkmark\checkmark$$

5. Explain in words why compound interest is a better form of interest for you to get, than simple interest. **2**

   Simple interest is a set amount that must be paid no matter what over the period of time, but compound interes can be paid as soon as you have the money