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| **Topic 1: Number and Algebra**  | **Compound Interest** |
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| 1. Steve and Dale want to purchase the same Jet Ski that costs $15,900 US.Steve invested $x US in an account that pays an annual interest of 2.9% compounded monthly. After 10 years, he will have $15,900 US in the account.Dale invested $8,000 US for *n* years. The investment has an annual interest rate of 2.5% compounded quarterly. After *n* years, the investment will be worth $15,900 US.
	1. Calculate Steve’s initial investment, x, to two decimal places
	2. Find the value of *n*
 | (3 marks)(3 marks) |
| Mark scheme:1. $15900=x\left(1+ \frac{.029}{12}\right)^{12∙18}$

$$x=\$11,901.55$$orFinance Solver:N = 10I = 2.9FV = +/- 15900PY = 1CY = 12*x* = $11,901.55 | (M1) Use of compound interest formula(A1) Correct Substitutions(A1) (A1) for CY = 12(M1) for all other correct entries(A1) |

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| 1. $15900=8000\left(1+ \frac{.025}{4}\right)^{n∙4}$

$x=28$ yearsorFinance SolverI = 2.5PV = 8000FV = -15900PY = 1CY = 4*x* = 28 years | (M1) Use of compound interest formula(A1) Correct substitutions(A1)(A1) for CY = 4(M1) for all other correct entries(A1) |