

Questions 41 and 42 are open-response questions.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH QUESTION.**
- **Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.**
- **If you do the work in your head, explain in writing how you did the work.**

Write your answer to question 41 in the space provided in your Student Answer Booklet.

- 41 The expression below can be used to calculate the balance in a savings account for which an initial deposit of P dollars has been compounded each year for t years at interest rate r .

$$P(1 + r)^t$$

Elaine opened a savings account with a deposit of \$1000. The interest on her account is compounded each year at a rate of 2%. Elaine will not make any additional deposits to or withdrawals from her account.

- What will be the balance in Elaine's account at the end of 1 year? Show or explain how you got your answer.
- What will be the balance in Elaine's account at the end of 3 years? Show or explain how you got your answer.

Pavel opened a savings account with a deposit of \$800. The interest on his account is compounded each year at a rate of 2.5%. Pavel will not make any additional deposits to or withdrawals from his account.

- Whose account, Elaine's or Pavel's, will have earned more **interest** at the end of 3 years? Show or explain how you got your answer.