

Mark schemes

Q1.

- (a) $1 - 1 = 0$
 and
 After 1 it's all 0s
 oe
Do not accept a list of zeros

B1

- (b) $1 - (-1) = 2$
 oe

B1

- $4 - 2 = 2$
 and
 All subsequent values are 2
 oe
Do not accept a list of twos

B1

- (c) $1 - \sqrt{2} - \sqrt{2} + 2$ or $1 - 2\sqrt{2} + 2$
Allow one error with four terms

M1

$2 - \sqrt{2}$

A1

[5]

Q2.

$$P\left(1 + \frac{r}{100}\right)^n$$

B1

[1]

Q3.

Alternative method 1

$17\,466 \div 1.025$ or $17\,040$

M1

their $17\,040 + 1000$ or $18\,040$

M1dep

their $18\,040 \div 1.025$

M1

$17\,600$

$SC2\ 11\,978(.25)$

A1

Alternative method 2

$$1.025x - 1000$$

oe

M1

$$\text{their } (1.025x - 1000) \times 1.025 \\ = 17\,466$$

oe

M1dep

$$1.025 \times 1.025 x = \\ 17\,466 + 1.025 \times 1000 \\ \text{or} \\ 1.050625x = 18\,491$$

oe

M1

$$17\,600$$

$$SC2\ 11\,978(.25)$$

A1

[4]

Q4.

(a) Valid statement

eg

$$\frac{11696.67}{1.025}$$

It should be

He has assumed the interest is the same each year

He is using simple interest not compound interest

Accept It should be 1.025

The 8 should be a power

He should divide not multiply

B1

(b) $1 + 0.025$ or 1.025

or $100 + 2.5$ or 102.5

M1

$$\frac{11696.67}{1.025^8} \text{ or } 9600$$

oe

M1

$$2096.67$$

A1

[4]