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 ÷ 1.025 or 17 040

M1

their 17 040 + 1000 or 18 040

M1dep

their 18 040 ÷ 1.025

M1

17 600
SC2 11 978(.25)

A1

Alternative method 2

$1.025x - 1000$

oe

M1

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

oe

M1dep

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

oe

M1

17 600

SC2 11 978(.25)

A1

[4]

Q4.

(a) Valid statement

eg

It should be $\frac{11696.67}{1.025}$

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

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

oe

M1

2096.67

A1

[4]