Q1. (a) Work out the value of $\sqrt{25} \times \sqrt[3]{64}$

.....

.....

Answer .....

(2)

(b) (i) Write down the value of 9^2.

Answer .....

(1)

(ii) Tick the box for the statement that is true.

The sum of the squares of two odd numbers is always odd ☐

The sum of the squares of two odd numbers is always even ☐

The sum of the squares of two odd numbers could be odd or even ☐

Give an example to justify your choice.

.....

.....

(2)

(Total 5 marks)

Q2. (a) Two square numbers under 50 have a difference that is also a square number.

Which two square numbers are they?

.....

.....

Answer ..... and .....

(2)

(b) Three consecutive square numbers have a total greater than 50 but less than 100.

Which three square numbers are they?

.....

.....

.....

.....

Answer ..... and ..... and .....

(2)

(Total 4 marks)

Q3. Erin is squaring numbers.

She says that it is possible to get an answer that is smaller than the number she started with.

Show that Erin is correct.

.....

.....

.....

.....

(Total 2 marks)

Q4. (a) Write down the square of 11.

Answer .....

(1)

(b) Given that $x = 12$

Write down the value of x^2

Answer.....

(1)

(c) Given that $y^3 = 125$

Write down the value of y.

Answer .....

(1)
(Total 3 marks)

M1. (a) 5 (×) 4

At least one correct

M1

20

A1

(b) (i) 81

B1

(ii) Always even ticked and a valid example eg, $9^2 + 3^2 = 90$

B1 if example incomplete eg, $9^2 + 3^2$

B2

[5]

M2. (a) Evidence of 2 square numbers other than one

M1

25 and 16 or 25 and 9

A1

(b) Evidence of summing any three consecutive square numbers

or 77 seen

M1

36, 25 and 16

A1

[4]

M3. Chooses to square any number between 0 and 1 exclusive

eg, 0.5^2 0.2×0.2 $(\frac{1}{4})^2$

A1

Evaluates correctly (conclusion can be implied)

Ignore any squaring of numbers that are not between 0 and 1 exclusive even if they mistakenly give a correct conclusion

eg, ignore –2 × –2 = –4

A1

[2]

M4. (a) 121

B1

(b) 144

B1

(c) 5

B1

[3]