Q1.

Find two sets of values for *c* and *d* such that

$$16c = 2d$$

_____

_____

_____

_____

c = _____ and *d* = _____

or   *c* = _____ and *d* = _____

(Total 3 marks)

Q2.

(a)   Work out the value of $81^{-\frac{1}{4}}$

_____

_____

_____

Answer _____

(2)

(b)   Write 16×8^{2x} as a power of 2 in terms of *x*.

_____

_____

_____

Answer _____

(3)

(Total 5 marks)

AQA GCSE Maths - Indices (H)

Q3.

Work $64^{\frac{2}{3}}$ out

_____

_____

_____

Answer _____

(Total 2 marks)

Q4.

(a) Work out the value of $9^{-\frac{3}{2}}$

_____

_____

_____

_____

Answer _____

(3)

(b) Work out all solutions of the equation

$$8^{m} = 2^{m^2}$$

_____

_____

_____

_____

_____

Answer _____

(3)

(Total 6 marks)

Q5.

Work out the value of $9^{-\frac{1}{2}}$

_____

_____

_____

Answer _____

(Total 2 marks)

Q6.

(a) Simplify fully $\dfrac{m^3 \times m^5 \times m}{m^2 \times m^4}$

_____

_____

Answer _____

(1)

(b) Expand and simplify $(3 + \sqrt{2})(5 - \sqrt{2})$

_____

_____

Answer _____

(2)

(c) Work out the value of $25^{-\frac{1}{2}} \times 81^{\frac{3}{4}}$

_____

_____

_____

_____

Answer _____

(3)

(Total 6 marks)

AQA GCSE Maths - Indices (H)

Q7.

Estimate the value of $\dfrac{101.4 \div 6.430}{7.99^{\frac{2}{3}}} \times 7.99^{\frac{2}{3}}$

_____

_____

_____

_____

_____

_____

Answer _____

(Total 4 marks)

Q8.

(a)   Circle the value of the reciprocal of 0.2

$\dfrac{2}{10}$ $\dfrac{1}{2}$ $\dfrac{1}{20}$ 0.8   5

(1)

(b)   Circle the value of 8.50

0   1   8.1   8.5

(1)

(c)   Work out $27^{\frac{1}{3}} \times 7^{-2}$

Give   your   answer   as   a   fraction.

_____

_____

_____

_____

_____

Answer _____

(3)

(Total 5 marks)

Q9.

Work out $\sqrt[3]{8} \times 5{-}2$

Give your answer as a decimal.

_____

_____

_____

_____

_____

Answer _____

(Total 3 mark)

Q10.

Circle the value of $9^{-\frac{1}{2}}$

$\dfrac{1}{81}$ $\qquad$ $\dfrac{1}{3}$ $\qquad$ -3 $\qquad$ $-4\dfrac{1}{2}$

(Total 1 mark)

AQA GCSE Maths - Indices (H)

Q11.

Given that $\dfrac{2^{3x}}{2^{(x-5)}} = 2^{17}$

Work out the value of x.

_____

_____

_____

_____

x = _____

(Total 3 marks)

Q12.

Express $\dfrac{1}{\sqrt[3]{x^2}}$ in the form x^a

_____

_____

_____

Answer _____

(Total 3 marks)