Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Fraction and Negative Indices 1

Calculator Not Allowed

INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.

- Write your answers in the spaces provided in this question paper.

- Answer ALL questions.

- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

- You should have a ruler, compass and protractor where required.

Total Marks :

1) Evaluate

   (a) $64^{\frac{2}{3}}$

                            Answer _____ [2]

   (b) $(81)^{-\frac{3}{4}} \times \left(\frac{1}{2}\right)^{-2}$

                            Answer _____ [3]

2) Evaluate

   (a) 4^{-2}

                            Answer _____ [1]

   (b) $\left(\frac{1}{16}\right)^{\frac{3}{4}} \times 64^{-\frac{1}{2}}$

                            Answer _____ [4]

3) Evaluate

(a) 8^0

Answer _____ [1]

(b) $4^{-2} \times 2^4$

Answer _____ [2]

4) Evaluate:

(a) $81^{0.25}$

Answer _____ [1]

(b) $25^{-\frac{3}{2}}$

Answer _____ [2]

5) **(a)** x is greater than 1

Write in ascending order

$$x^2 \qquad \frac{x^2}{x^3} \qquad x^{-3} \qquad x^0$$

Answer _____ [2]

(b) Simplify

$$\frac{x^{\frac{2}{3}} \times x^{\frac{1}{2}}}{x^{\frac{1}{6}}}$$
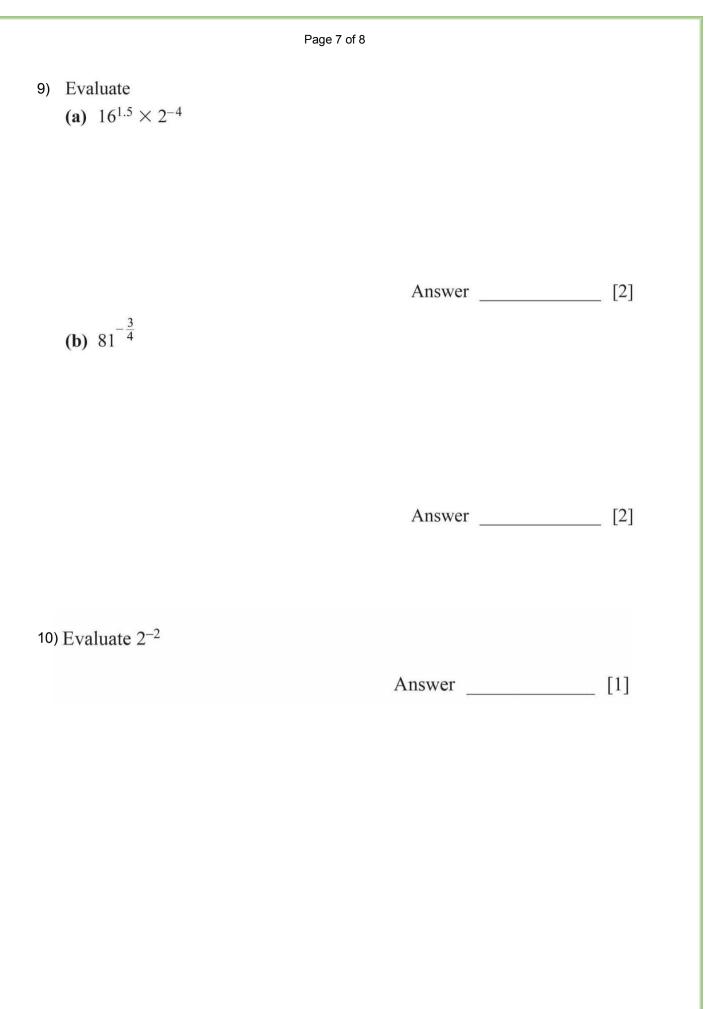
Answer _____ [2]

6) Evaluate

(a) $64^{0.5}$

Answer _____ [1]

(b) $27^{2/3}$

Answer _____ [2]

(c) $16^{-3/4}$

Answer _____ [2]

7) Evaluate

(a) $9^{\frac{3}{2}}$

Answer _____ [2]

(b) $81^{-\frac{1}{2}}$

Answer _____ [2]

(c) For what value of n is $4^n = \frac{1}{8}$?

Answer $n =$ _____ [2]

8) **(a)** Evaluate

(i) $16^{\frac{3}{4}}$

Answer _____ [2]

(ii) $125^{-\frac{2}{3}}$

Answer _____ [2]

(b) Evaluate [2]

$$10\,000^{-\frac{1}{4}}$$

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(c) Simplify $400^{-\frac{3}{2}}$.

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[2]

9) Evaluate

   (a) $16^{1.5} \times 2^{-4}$

   Answer _____ [2]

   (b) $81^{-\frac{3}{4}}$

   Answer _____ [2]

10) Evaluate 2^{-2}

   Answer _____ [1]

11) Evaluate

(a) $81^{0.5}$

Answer _____ [1]

(b) $125^{\frac{2}{3}}$

Answer _____ [2]

(c) $32^{-0.4}$

Answer _____ [2]