N288 Indices 2

Q1.

Write down the value of $125^{\frac{2}{3}}$

.....

(Total for question is 1 mark)

Q2.

(a) Write down the value of $64^{\frac{1}{2}}$

.....

(1)

(b) Find the value of $\left(\frac{8}{125}\right)^{-\frac{2}{3}}$

.....

(2)

(Total for question = 3 marks)

Q3.

(a) Write down the value of $27^{1/3}$

.....

(1)

(b) Find the value of $25^{-1/2}$

.....

(2)

(Total for Question is 3 marks)

Q4.

(a) Write down the value of $100^{\frac{1}{2}}$

.....

(1)

(b) Find the value of $125^{\frac{2}{3}}$

.....

(2)

(Total for question = 3 marks)

Q5.

(a) Find the value of $81^{-\frac{1}{2}}$

.....

(2)

(b) Find the value of $\left(\frac{64}{125}\right)^{\frac{2}{3}}$

.....

(2)

(Total for question = 4 marks)

Q6.

(a) Write down the value of $36^{\frac{1}{2}}$

.....

(1)

(b) Write down the value of 23^0

.....

(1)

(c) Work out the value of $27^{-\frac{2}{3}}$

.....

(2)

(Total for question = 4 marks)

Q7.

(a) Find the value of $\sqrt[4]{27 \times 3 \times 10^8}$

.....

(2)

(b) Find the value of $\left(\frac{216}{1000}\right)^{-\frac{2}{3}}$

.....

(2)

(Total for question = 4 marks)

Q8.

(a) Find the value of $\sqrt[3]{8 \times 10^6}$

.....

(1)

(b) Find the value of $144^{\frac{1}{2}} \times 64^{-\frac{1}{3}}$

.....

(2)

(c) Solve $3^{2x} = \frac{1}{81}$

x = ...

(2)

(Total for question = 5 marks)

Q9.

(a) Work out the value of $\left(\frac{16}{81}\right)^{\frac{3}{4}}$

.....

(2)

$3^a = \frac{1}{9}$ $3^b = 9\sqrt{3}$ $3^c = \frac{1}{\sqrt{3}}$

(b) Work out the value of $a + b + c$

.....

(2)

(Total for question = 4 marks)

Q10.

Given that $3^{-n} = 0.2$

find the value of $(3^4)^n$

.....

(Total for question = 2 marks)

Q11.

$16^{1/5} \times 2^x = 8^{3/4}$

Work out the exact value of x.

.....

(Total for question = 3 marks)

Q12.

Given that $9^{-\frac{1}{2}} = 27^{\frac{1}{4}} \div 3^{x+1}$
find the exact value of *x*.

x = ...

(Total for question = 3 marks)