

## Indices Past Paper Questions



**Q1.**

(a) Work out the value of  $3.1^4$

.....  
(1)

(b) Simplify  $(p^3)^2$

.....  
(1)

(c) Simplify  $t^8/t^3$

.....  
(1)

$$2^3 \times 2^n = 2^9$$

(d) Work out the value of  $n$ .

.....  
(1)

**(Total for Question is 4 marks)**

Q2.



(a) Write  $\frac{3^5 \times 3^4}{3^2}$  as a power of 3

.....  
(2)

(b) Write down the value of  $12^0$

.....  
(1)

(c) Write down the value of  $3^{-2}$

.....  
(1)

**(Total for question = 4 marks)**



**Q3.**

Work out the value of  $\frac{3^7 \times 3^{-2}}{3^3}$

.....

**(Total for question = 2 marks)**

**Q4.**

Write down the value of  $7^2$

.....

**(Total for question = 1 mark)**

**Q5.**

Simplify  $(2^{-5} \times 2^8)^2$

Give your answer as a power of 2

.....

**(Total for question = 2 marks)**



**Q6.**

$$p^3 \times p^x = p^9$$

(a) Find the value of  $x$ .

$x = \dots\dots\dots$

(1)

$$(7^2)^y = 7^{10}$$

(b) Find the value of  $y$ .

$y = \dots\dots\dots$

(1)

$100^a \times 1000^b$  can be written in the form  $10^w$

(c) Show that  $w = 2a + 3b$

(2)

**(Total for question = 4 marks)**

**Q7.**

Work out the value of  $3^5$

$\dots\dots\dots$

**(Total for question = 1 mark)**



**Q8.**

(a) Simplify  $n^3 \times n^5$

.....

(1)

(b) Simplify  $\frac{c^3d^4}{c^2d}$

.....

(2)

**(Total for question = 3 marks)**