

1 $p^3 \times p^x = p^9$

(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)

2 (a) Simplify $m^3 \times m^4$

(1)

(b) Simplify $(5np^3)^3$

(2)

(c) Simplify $\frac{32q^9r^4}{4q^3r}$

(2)

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

(2)

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

.....
(1)

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

.....
(2)

(c) Solve $\frac{5x}{2} > 7$

.....
(2)

5 (a) Simplify $c^5 \div c^2$

.....
(1)

(b) Simplify $(d^4)^3$

.....
(1)