

2. (d) Simplify  $p^4q^2 \times p^3q^6$

Nov 06 4H

.....  
(2)

Q2

(Total 7 marks)

(b) Simplify  $4x^3y^5 \times 3x^2y$

Nov 09 4H

.....  
(2)

(c) Simplify  $(27q^6)^{\frac{2}{3}}$

.....  
(2)

Q12

(Total 6 marks)

15. (a) Simplify  $3c^5d \times c^2d^4$

May 09 4H

Leave  
blank

.....  
(2)

(b) Simplify  $(2x^3y)^4$

.....  
(2)

8. (a) Simplify

Nov 08 3H

Leave  
blank

(i)  $p^5 \times p$

.....

(ii)  $\frac{q^8}{q^3}$

.....

(2)

May 07 34

5. (a) Simplify, leaving your answers in index form,

(i)  $7^5 \times 7^3$

.....

(ii)  $5^9 \div 5^3$

.....

(2)

(b) Solve  $\frac{2^9 \times 2^4}{2^n} = 2^8$

$n =$  .....

(2)

Q5

(Total 4 marks)

Nov 07 44

14. (a) Simplify  $2n \times 3n$

.....  
(1)

(b) Simplify  $\frac{3x^4y^3}{xy^3}$

.....  
(2)

(c) Simplify  $(t^2)^4$

.....  
(1)

(d) Simplify  $(2p^{-2})^{-3}$

.....  
(2)

Q14

(Total 6 marks)

12. Simplify

May 07 4H

(a)  $\frac{a^3 \times a^4}{a^2}$

.....  
(2)

(b)  $(\sqrt{x})^6$

.....  
(1)

(c)  $\frac{3(x+1)^2}{6(x+1)}$

.....  
(2)

Q12

(Total 5 marks)

4. (a) Simplify

May 05 4H

(i)  $p \times p \times p \times p$

.....

(ii)  $2a + 3b - 5a + b - 7$

.....

(iii)  $\frac{q^3 \times q^5}{q^2}$

.....

(4)

4. (a) Work out the value of  $y^2 - 4y$  when  $y = -3$

May 06 3H

.....  
(2)

(b) Simplify

(i)  $p^3 \times p^5$

.....

(ii)  $q^7 \div q$

.....  
(2)

(Total 4 marks)

Q4

13. (a) Express  $8^{\frac{1}{2}}$  as a power of 2

May 06 4H

.....  
(2)

(b) Express  $\sqrt{3}$  as a power of 9

.....  
(2)

(c) Express  $\frac{1}{4\sqrt{2}}$  as a power of 2

.....  
(3)

(Total 7 marks)

Q13

13 (b) Simplify  $(2p^4)^3$

May 06 3H

.....  
(2)

(c) Simplify  $(64y^6)^{\frac{2}{3}}$

.....  
(2)

(Total 6 marks)

Q13

Nov 06 3H

13. Evaluate the following.  
Give your answers as fractions.

(a)  $2^{-3}$

.....  
(1)

(b)  $\left(\frac{27}{343}\right)^{\frac{1}{3}}$

.....  
(1)

(c)  $\left(\sqrt{\frac{3}{8}}\right)^4$

.....  
(1)

(Total 3 marks)

Q13

May 08 4H

7. (a) Write  $3^8 \times 3^6$  as a power of 3

.....  
(1)

(b) Write  $\frac{7^5}{7^2}$  as a power of 7

.....  
(1)

(c)  $\frac{5^n \times 5^3}{5^7} = 5^2$

Find the value of  $n$ .

$n =$  .....  
(2)

(d)  $A = 2^3 \times 3^4 \times 5^{16}$   
 $B = 2^5 \times 3 \times 7^{12}$

Find the Highest Common Factor of  $A$  and  $B$ .

.....  
(2)  
(Total 6 marks)

Q7