Q1. (June 2018 v1)

(b) $4^w = \frac{1}{16}$

Find the value of w.

$w =$ ..... [1]

Q2. (June 2018 v2)

4 Find the value of p when $5^p \div 5^8 = 5^{13}$.

$p =$ ..... [1]

Q3. (June 2018 v3)

5 Work out the value of 4^{-2}.

..... [1]

Q4. (June 2020 v2)

17 Write 2^{-4} as a decimal.

..... [1]

Q5. (June 2020 v3)

14 Simplify.

(a) $p^2 \times p^4$

..... [1]

(b) $m^{15} \div m^5$

..... [1]

(c) $(k^3)^5$

..... [1]

Q6. (June 2021 v1)

17 **(a)** Write $\frac{1}{2\times2\times2\times2\times2}$ as a power of 2.

..... [1]

(b) **(i)** $3^{18} \div 3^t = 3^6$

Find the value of t.

$t =$ ..... [1]

(ii) Simplify.

$8w^{10} \times 6w^5$

..... [2]

Q7. (June 2021 v2)

14 Find the value of x when $7^x \div 7^4 = 7^9$.

$x =$ ..... [1]

Q8. (June 2022 v2)

17 $9^x \times 9^2 = 9^{12}$

Find the value of x.

$x =$ ..... [1]

Q9. (June 2022 v3)

12 Simplify.

(a) $y^3 \div y^5$

..... [1]

(b) $7x^0$

..... [1]

Q10. (June 2023 v3)

15 Simplify $d^8 \div d^2$.

..... [1]

Q11. (June 2024 v1)

20 **(a)** Find the value of 137^0.

..... [1]

(b) $7^{12} \div 7^p = 7^{17}$

Find the value of p.

$p =$ ..... [1]

Q12. (June 2024 v2)

21 $5^7 \div 5^x = 5^3$

Find the value of x.

$x =$ ..... [1]

Q13. (June 2025 v1)

14 $3^p \times 3^4 = 3^{10}$

Find the value of p.

$p =$ ..... [1]

Q14. (June 2025 v2)

(b) Write 2^{-3} as a fraction.

..... [1]

Q15. (June 2025 v3)

(c) Work out the value of 10^{-2}.

..... [1]

Q16. (June 2025 v3)

17 Simplify.

(a) $y^4 \times y^6$

..... [1]

(b) $\frac{p^5}{p^8}$

..... [1]

(c) $(w^4)^3$

..... [1]

Q17. (Nov 2018 v1)

3 Simplify $\frac{a^5}{a^2}$.

.....[1]

Q18. (Nov 2019 v2)

13 Find the value of

(a) $6^0 + 6^2$,

..... [1]

(b) 5^{-4}.

..... [1]

Q19. (Nov 2019 v3)

13 **(a)** $x^3 \times x^6 = x^m$

Find the value of m.

$m =$ ..... [1]

(b) $(x^2)^n = x^{12}$

Find the value of n.

$n =$ ..... [1]

Q20. (Nov 2021 v2)

(b) $7^y \times 7^6 = 7^{18}$

Find the value of y.

$y =$ ..... [1]

Q21. (Nov 2022 v2)

20 **(a)** $5^8 \div 5^x = 5^2$

Find the value of x.

$x =$ ..... [1]

(b) Simplify $(x^5)^3$.

..... [1]

Q22. (Nov 2023 v1)

16 Simplify.

(a) $n^5 \times n$

..... [1]

(b) $8x^6 \div 2x^2$

..... [2]

Q23. (Nov 2025 v1)

23 **(a)** $a^8 \times a^x = a^{15}$

Find the value of x.

$x =$ ..... [1]

(b) $(b^7)^y = b^{21}$

Find the value of y.

$y =$ ..... [1]

Q24. (Nov 2025 v3)

(b) 6^0.

..... [1]

Q25. (Nov 2025 v3)

17 **(a)** $k^x \times k^5 = k^{20}$

Find the value of x.

$x =$ ..... [1]