

1 Simplify.

$$4p^5q^3 \times p^2q^{-4}$$

..... [2]

[Total: 2]

2 Simplify.

$$(27x^9)^{\frac{2}{3}}$$

..... [2]

[Total: 2]

3 Simplify $2x^3 \times 3x^2$.

..... [2]

[Total: 2]

4 Simplify.

$$\left(\frac{x^3}{8}\right)^{-\frac{4}{3}}$$

..... [2]

[Total: 2]

5 Simplify.

(a) $5m^2 \times 2m^3$

..... [2]

(b) $(x^8)^3$

..... [1]

[Total: 3]

6 Simplify.

(a) $t^{21} \div t^7$

..... [1]

(b) $(u^5)^5$

..... [1]

[Total: 2]

7 $2^3 = 4^p$

Find the value of p .

$p =$ [1]

[Total: 1]

8 Simplify $(81y^{16})^{\frac{3}{4}}$.

..... [2]

[Total: 2]

9 Simplify.

(a) $a^3 \times a^6$

..... [1]

(b) $(5xy^2)^3$

..... [2]

(c) $\left(\frac{27x^{12}}{64y^3}\right)^{-\frac{1}{3}}$

..... [3]

[Total: 6]

10 Simplify.

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

..... [1]

(b) $w^7 \div w^{-2}$

..... [1]

[Total: 2]

11 Simplify $\left(\frac{64}{m^3}\right)^{-\frac{1}{3}}$.

..... [2]

[Total: 2]

12 Find the value of n when $5^n = \frac{1}{125}$.

$n =$ [1]

[Total: 1]

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

..... [1]

[Total: 1]

14 Simplify.

(a) $\left(\frac{4}{x}\right)^{-2}$

..... [1]

(b) $a^3b^7 \div a^6b^2$

..... [2]

[Total: 3]

15 $t^x \times t^2 = t^{10}$

Find the value of x .

$x =$ [1]

[Total: 1]

16 Simplify $(3w^3)^3$.

..... [2]

[Total: 2]

17 Simplify $\frac{w^2}{w^3}$.

..... [1]

[Total: 1]

18 Simplify.

$$4x^3 \times 2x^7$$

..... [2]

[Total: 2]

19 Simplify.

$$5a^3c^2 \times 2a^2c^7$$

..... [2]

[Total: 2]

20 Simplify.

$$\left(\frac{16a^8}{c^{12}} \right)^{\frac{3}{4}}$$

..... [2]

[Total: 2]

21 Simplify.

$$(x^3)^4$$

..... [1]

[Total: 1]

22 $4^w = \frac{1}{16}$

Find the value of w .

$w = \dots\dots\dots$ [1]

[Total: 1]

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

$p = \dots\dots\dots$ [1]

[Total: 1]

24 $3^{-q} \times \frac{1}{27} = 81$

Find the value of q .

$q = \dots\dots\dots$ [2]

[Total: 2]

25 Simplify. $\sqrt[3]{27t^{27}}$

$\dots\dots\dots$ [2]

[Total: 2]

26 Find the value of n when $y^{10} \times y^n = 1$.

$n = \dots\dots\dots$ [1]

[Total: 1]

27 Find the value of k when $x^{10} \div x^k = x^3$.

$k = \dots\dots\dots$ [1]

[Total: 1]

28 Simplify.

(a) $(3p^2)^5$

$\dots\dots\dots$ [2]

(b) $18x^2y^6 \div 2xy^2$

$\dots\dots\dots$ [2]

(c) $\left(\frac{5}{m}\right)^{-2}$

..... [1]

[Total: 5]

29 Simplify $(x^5)^2$.

..... [1]

[Total: 1]

30 Simplify.

$$g^3 \times g^5$$

..... [1]

[Total: 1]

31 Simplify.

$$\left(\frac{1}{2}x^{\frac{2}{3}}\right)^3$$

..... [2]

[Total: 2]

32 Simplify $(16p^{16})^{\frac{1}{4}}$.

..... [2]

[Total: 2]

33 Simplify.

$$\left(32x^{10}\right)^{\frac{3}{5}}$$

..... [2]

[Total: 2]

34 $w^6 \times w^k = w^{18}$

Find the value of k .Answer $k =$ [1]

[Total: 1]

35 Simplify $\frac{r^6}{r^2}$.

Answer [1]

[Total: 1]

36 Find the value of x in each of the following.

(a) $2^x = 128$

Answer(a) $x =$ [1]

(b) $2^x \times 2^9 = 2^{13}$

Answer(b) $x =$ [1]

(c) $2^9 \div 2^x = 4$

Answer(c) $x =$ [1]

(d) $2^x = \sqrt[3]{2}$

Answer(d) $x = \dots\dots\dots$ [1]

[Total: 4]

37 Simplify $5x^0$.

Answer $\dots\dots\dots$ [1]

[Total: 1]

38 Simplify.
 $6uw^{-3} \times 4uw^6$

Answer $\dots\dots\dots$ [2]

[Total: 2]

39 Simplify.

$$(256y^{256})^{\frac{1}{8}}$$

Answer $\dots\dots\dots$ [2]

[Total: 2]

40 Simplify
 $6uw^{-3} \times 4uw^6$

Answer $\dots\dots\dots$ [2]

[Total: 2]