



Laws of exponents with integer exponents

Student name: _____ Score: _____

1. Find the value of:

(a) 3^0

(b) $(0.3)^2$

(c) $\left(\frac{3}{2}\right)^{-3}$

(d) 25^0

(e) $\left(\frac{4}{3}\right)^{-2}$

2. Simplify:

(a) $16x^{16} \div 2x^2$

(b) $8y^8 \div 2y^2$

(c) $2y^2 \times 3y^3$

(d) $\frac{5^{12}}{5^3 \times 5^2}$

3. Simplify:

(a) $(2w^2)^5$

(b) $(x^3)^4$

(c) When $x^{-2} = 4$ write down the values of x $x = \dots\dots\dots$ or $x = \dots\dots\dots$

4. (a) If $2^8 \div 2 = 2^x$ Find the value of x

(b) If $3^p = 81$ Find the value of p

(c) If $2^q = \frac{1}{8}$ Find the value of q

(d) If $x^3 \div x^p = x^5$ Find the value of p





Laws of exponents with integer exponents

Student name: _____ **ANSWERS** _____ Score: _____

1. Find the value of:

(a) 3^0 **1**

(b) $(0.3)^2$ **0.09**

(c) $\left(\frac{3}{2}\right)^{-3}$ **$\frac{8}{27}$**

(d) 25^0 **1**

(e) $\left(\frac{4}{3}\right)^{-2}$ **$\frac{9}{16}$**

2. Simplify:

(a) $16x^{16} \div 2x^2$ **$8x^{14}$**

(b) $8y^8 \div 2y^2$ **$4y^6$**

(c) $2y^2 \times 3y^3$ **$6y^5$**

(d) $\frac{5^8}{5^3 \times 5^2}$ **$5^3 = 125$**

3. Simplify:

(a) $(2w^2)^5$ **$32w^{10}$**

(b) $(x^3)^4$ **x^{12}**

(c) When $x^{-2} = 4$ write down the values of x

$x = \dots \frac{1}{2} \dots$ or $x = \dots -\frac{1}{2} \dots$

4. (a) If $2^8 \div 2 = 2^x$ Find the value of x **$x = 7$**

(b) If $3^p = 81$ Find the value of p **$p = 4$**

(c) If $2^n = \frac{1}{8}$ Find the value of n **$n = -3$**

(d) If $x^3 \div x^m = x^5$ Find the value of m **$m = -2$**

