

Connect equivalent expressions together. Try not to cross the lines!

# Level 1

The image contains 25 green ovals, each with a black border, arranged in a grid-like pattern. Each oval contains a mathematical expression. The expressions are:  $4^4$ ,  $27$ ,  $4^2$ ,  $1$ ,  $\frac{1}{3}$ ,  $4^1$ ,  $256$ ,  $4^3$ ,  $16$ ,  $3^{-3}$ ,  $4^{-2}$ ,  $4^{-3}$ ,  $4^0$ ,  $3^3$ ,  $9$ ,  $3^2$ ,  $3$ ,  $64$ ,  $\frac{1}{16}$ ,  $4$ ,  $\frac{1}{27}$ ,  $\frac{1}{64}$ ,  $4^{-1}$ ,  $\frac{1}{4}$ ,  $\frac{1}{9}$ ,  $3^1$ ,  $3^{-2}$ , and  $3^{-1}$ .

Connect equivalent expressions together. Try not to cross the lines!

## Level 2

5

$12^1$

$9^{-3}$

9

$\frac{1}{225}$

$\frac{1}{7}$

$2^0$

1000

1296

$4^3$

$14^{-3}$

$10^3$

$5^1$

12

$6^4$

1

$15^{-2}$

$7^{-1}$

121

$\frac{1}{64}$

$13^{-1}$

$\frac{1}{729}$

$3^2$

$\frac{1}{13}$

$\frac{1}{2744}$

$11^2$

64

$8^{-2}$

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### Level 3

169

$a^9$

1

$x^{-1}$

$g^{-1}$

$\frac{1}{g^2}$

$x^{-2}$

$x^{-3}$

$\frac{1}{g^3}$

$x^0$

$a^4 \div a^5$

$g$

$g^1$

$\frac{1}{x^2}$

$a^1$

$\frac{1}{x^3}$

$\frac{1}{x}$

$13^2$

$\frac{1}{a}$

$a$

$a^7$

$a^4 \times a^5$

$g^{-3}$

$\frac{1}{g}$

$a^2 \times a^5$

$g^{-2}$

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## Level 4

$$4^{\frac{1}{2}}$$

$$100^{\frac{1}{2}}$$

$$1$$

$$4^{-\frac{1}{2}}$$

$$10^{-2}$$

$$2$$

$$\left(4^{\frac{1}{2}}\right)^3$$

$$10$$

$$8$$

$$25^{-\frac{1}{2}}$$

$$9$$

$$4$$

$$\frac{1}{10}$$

$$7$$

$$64^{\frac{1}{3}}$$

$$\frac{1}{5}$$

$$100^{-\frac{1}{2}}$$

$$\frac{1}{2}$$

$$4^0$$

$$81^{\frac{1}{2}}$$

$$3$$

$$729^{\frac{1}{6}}$$

$$49^{\frac{1}{2}}$$

$$\frac{1}{100}$$

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## Level 5

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

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

$$7$$

$$\frac{7}{5}$$

$$\frac{64}{81}$$

$$\left(\frac{4}{9}\right)^{\frac{1}{2}}$$

$$\left(\frac{4}{9}\right)^{-\frac{1}{2}}$$

$$\frac{2}{3}$$

$$\frac{1}{4}$$

$$\left(\frac{3}{4}\right)^{-1}$$

$$\frac{3}{10}$$

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

$$2$$

$$\left(\frac{25}{49}\right)^{\frac{1}{2}}$$

$$\left(\frac{25}{49}\right)^{-\frac{1}{2}}$$

$$\frac{10}{3}$$

$$\frac{3}{2}$$

$$\left(\frac{8}{9}\right)^2$$

$$\left(\frac{1}{7}\right)^{-1}$$

$$\frac{9}{16}$$

$$\frac{4}{3}$$

$$\left(\frac{100}{9}\right)^{\frac{1}{2}}$$

$$\left(\frac{100}{9}\right)^{-\frac{1}{2}}$$

$$\frac{5}{7}$$

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## Level 6

$3x^{-2}$

$-8x^3$

$(3x)^{-2}$

$256x^4$

$-256x^4$

$4x^{-3}$

$\frac{1}{64x^3}$

$(9x)^{-\frac{1}{2}}$

$\frac{3}{x^2}$

$(-2x)^3$

$\frac{4}{x^4}$

$-2x^{-3}$

$\frac{9}{\sqrt{x}}$

$4x^{-4}$

$\frac{4}{x^3}$

$(-4x)^4$

$\frac{1}{3\sqrt{x}}$

$-(4x)^4$

$\frac{-2}{x^3}$

$(4x)^{-3}$

$9x^{-\frac{1}{2}}$

$\frac{1}{9x^2}$