EXPONENTS

EXPONENT: indicates self-multiplication

x^n

Base

Exponent

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Exponent Rules

Product

$a^m \cdot a^n =$ a^{m+n}

To multiply terms that have the same base, you can add exponents.

$3^4 \cdot 3^5 =$ 3^9

$b^a \cdot b^c =$ b^{a+c}

Quotient

$\frac{a^m}{a^n} =$ a^{m-n}

To divide terms that have the same base, you can subtract exponents.

$\frac{4^7}{4^2} =$ 4^5

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$a^{-n} = \frac{1}{a^n}$ Negative exponents mean drop it.

$10^{-5} = \frac{1}{10^5}$

$5^{-1} = \frac{1}{5^1}$

$(a^m)^n = a^{m \cdot n}$ To raise a power to another power, distribute (multiply)

$(3^4)^5 = 3^{20}$

$(5^{-2})^8 = 5^{-16}$

$= \frac{1}{5^{16}}$

COMBINING LIKE TERMS

IF YOU CAN FIND

JUST

ONE

DIFFERENCE

THEN THEY ARE

NOT THE SAME!

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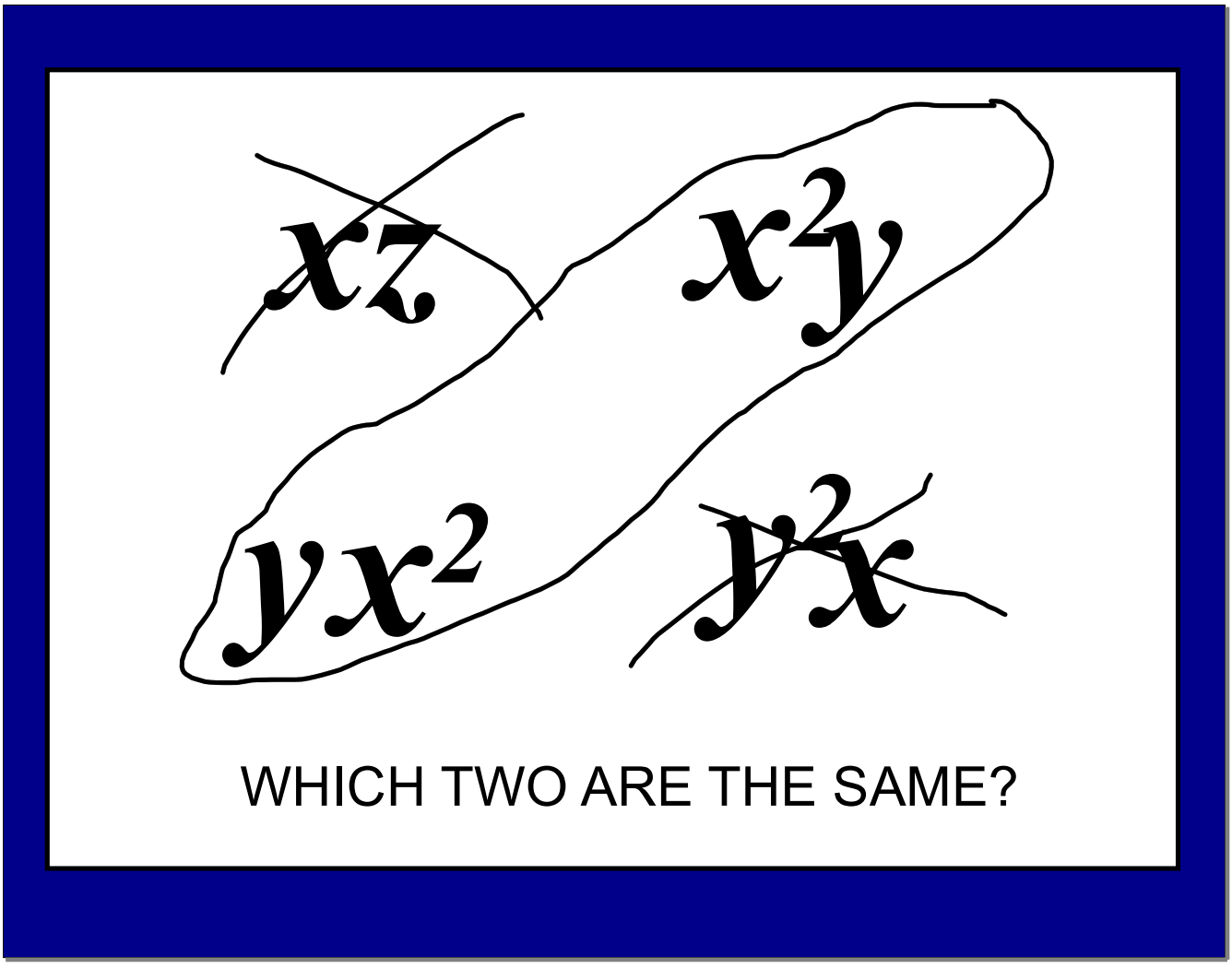

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EXAMPLES

$-4x - 10x$

$-14x$

$-5n + 3(6 + 7n)$

$-5n + 18 + 21n$

$16n + 18$

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