Algebra II Lesson #1 Unit 10 Class Worksheet #1 For Worksheet #1 This lesson will discuss integral exponents.

Consider these powers of 5.

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 $5^2 =$

Consider these powers of 5.

 $5^2 = (5)(5)$

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2 factors of 5

Consider these powers of 5.

 $5^2 = (5)(5) = 25$

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$$5^3 =$$

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3 factors of 5

Consider these powers of 5.

$$5^2 = (5)(5) = 25$$

 $5^3 = (5)(5)(5) = 125$

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 $5^4 = (5)(5)(5)(5)$

Consider these powers of 5.

 $5^2 = (5)(5) = 25$

 $5^{3} = (5)(5)(5) = 125$ \downarrow $5^{4} = (5)(5)(5)(5)$

4 factors of 5

Consider these powers of 5.

 $5^2 = (5)(5) = 25$

 $5^3 = (5)(5)(5) = 125$

 $5^4 = (5)(5)(5)(5) = 625$

Consider these powers of 5.

 $5^2 = 25$ $5^3 = 125$ $5^4 = 625$

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We could also say that when we subtract 1 from the exponent,

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 $5^2 = 25$ $5^3 = 125$ $5^4 = 625$

Notice that when we add 1 to the exponent, the result is multiplied by 5.

We could also say that when we subtract 1 from the exponent, the result is divided by 5.

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 $5^3 = 125$ $5^4 = 625$

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 $5^3 = 125$ $5^4 = 625$

Notice that when we add 1 to the exponent, the result is multiplied by 5.

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 $5^2 = 25$ $5^3 = 125$ $5^4 = 625$

Notice that when we add 1 to the exponent, the result is multiplied by 5.

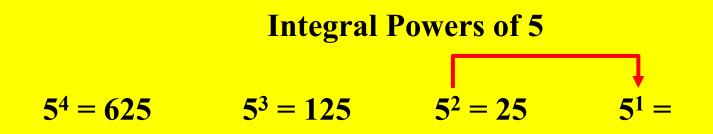
We could also say that when we subtract 1 from the exponent, the result is divided by 5 (or multiplied by 1/5).

We will continue in this 'direction'.

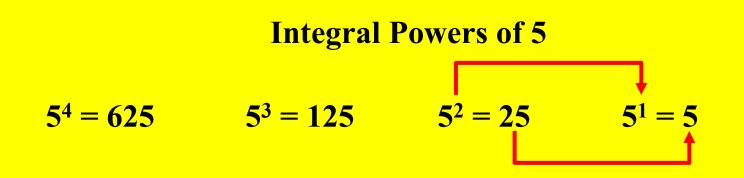
Integral Powers of 5

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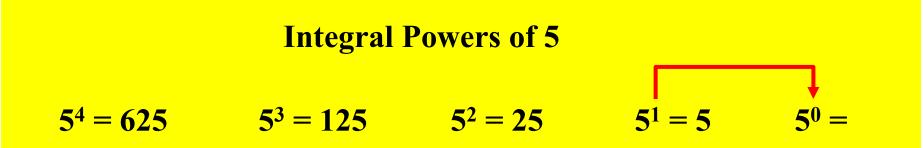


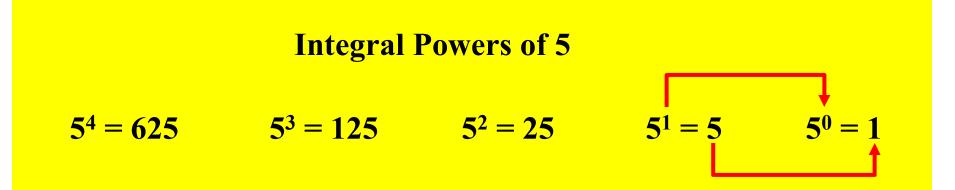
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Integral Powers of 5

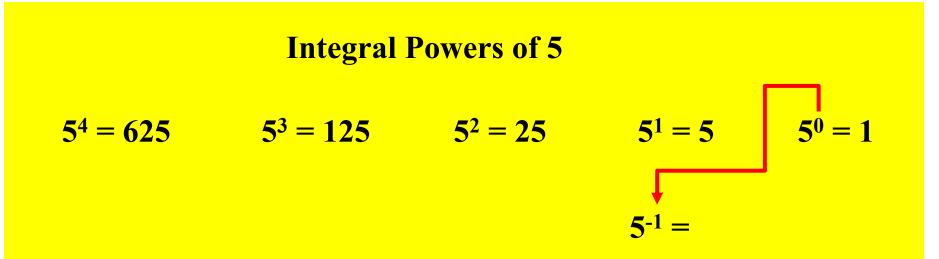
 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$

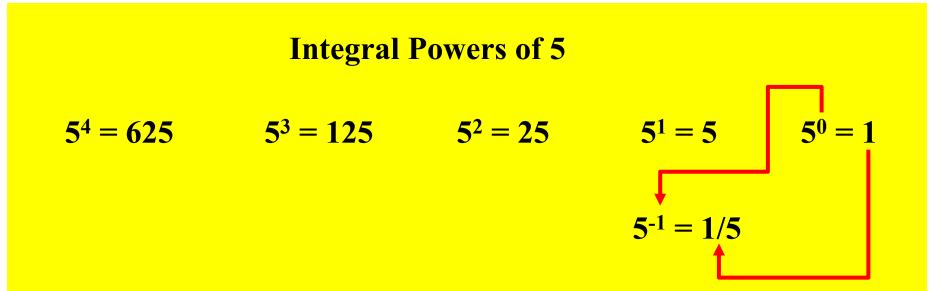
We could also say that when we subtract 1 from the exponent, the result is divided by 5 (or multiplied by 1/5).

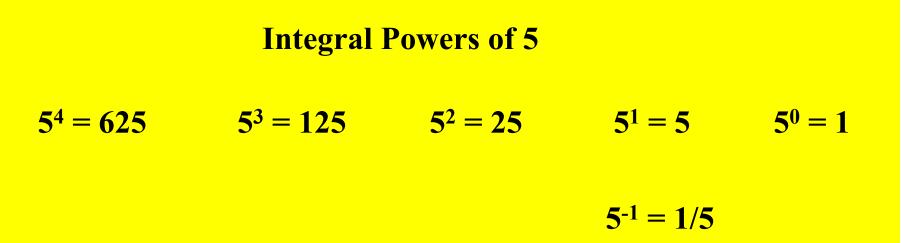




 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$







5⁴ = 625 5³ = 125 5² = 25 5¹ = 5 5⁰ = 1 $5^{-2} = 5^{-1} = 1/5$

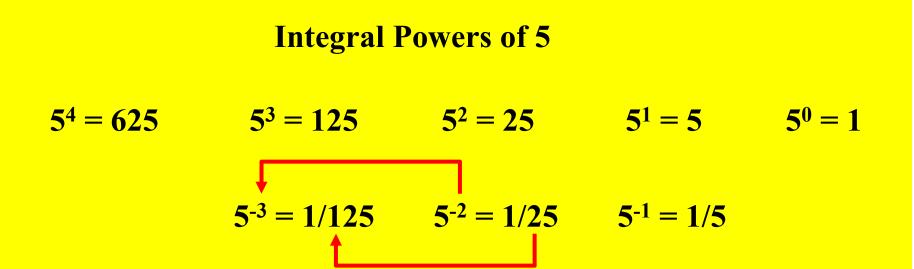
5⁴ = 625 5³ = 125 5² = 25 5¹ = 5 5⁰ = 1 5⁻² = 1/25 5⁻¹ = 1/5

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5⁴ = 625
5³ = 125
5² = 25
5¹ = 5
5⁰ = 1

$$5^{-3} = 5^{-2} = 1/25$$

5⁻¹ = 1/5



 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$

$$5^{-3} = 1/125$$
 $5^{-2} = 1/25$ $5^{-1} = 1/5$

 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$ $5^{-4} = 1/625$ $5^{-3} = 1/125$ $5^{-2} = 1/25$ $5^{-1} = 1/5$

 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$
 $5^{-4} = 1/625$ $5^{-3} = 1/125$ $5^{-2} = 1/25$ $5^{-1} = 1/5$

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5⁻⁴ = 1/625 **5**⁻³ = 1/125 **5**⁻² = 1/25 **5**⁻¹ = 1/5

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5⁻⁴ = 1/625 5⁻³ = 1/125 5⁻² = 1/25 5⁻¹ = 1/5

In general, the following properties apply.

 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$

5⁻⁴ = 1/625 **5**⁻³ = 1/125 **5**⁻² = 1/25 **5**⁻¹ = 1/5

In general, the following properties apply.

(1) If $b \neq 0$,

 $5^4 = 625$ $5^3 = 125$ $5^2 = 25$ $5^1 = 5$ $5^0 = 1$

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In general, the following properties apply.

(1) If $b \neq 0$, then $b^0 = 1$. (0⁰ is undefined.)

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5⁻⁴ = 1/625 **5**⁻³ = 1/125 **5**⁻² = 1/25 **5**⁻¹ = 1/5

In general, the following properties apply.

(1) If b ≠ 0, then b⁰ = 1. (0⁰ is undefined.)
(2) If b ≠ 0,

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Integral Powers of 5					
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In general, the following properties apply.

(1) If $b \neq 0$, then $b^0 = 1$. (0⁰ is undefined.)

(2) If $b \neq 0$, then $b^{-k} = 1/b^k$.

If b is <u>any non-zero real number</u>,

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 $(2/3)^0 =$

 $(2/3)^1 =$ $(2/3)^{-1} =$ $(2/3)^2 =$ $(2/3)^{-2} =$ $(2/3)^3 =$ $(2/3)^{-3} =$

	$(2/3)^0 =$	
$(2/3)^1 =$	(2/3)	-1 =
$(2/3)^2 =$	(2/3)	-2 <u></u>
$(2/3)^3 =$	(2/3)	-3 <u></u>

 $(2/3)^0 =$

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If the exponent is a positive integer,

 $(2/3)^0 = 1$

 $(2/3)^{1} =$ $(2/3)^{2} =$ $(2/3)^{3} =$

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 $(2/3)^2 =$ $(2/3)^3 =$

 $(2/3)^0 = 1$

 $(2/3)^1 = 2^1/3^1$

 $(2/3)^2 =$ $(2/3)^3 =$

 $(2/3)^0 = 1$

 $(2/3)^1 = 2^1/3^1 = 2/3$

 $(2/3)^2 =$ $(2/3)^3 =$

 $(2/3)^0 = 1$

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$$(2/3)^2 = 2^2/3^2 = 4/9$$

 $(2/3)^3 =$

 $(2/3)^0 = 1$

$$(2/3)^1 = 2^1/3^1 = 2/3$$

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 $(2/3)^3 =$

 $(2/3)^0 = 1$

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 $(2/3)^3 = 2^3/3^3 = 8/27$

 $(2/3)^0 = 1$

$$(2/3)^1 = 2^1/3^1 = 2/3$$

$$(2/3)^2 = 2^2/3^2 = 4/9$$

$$(2/3)^3 = 2^3/3^3 = 8/27$$

 $(2/3)^0 = 1$

$$(2/3)^1 = 2^1/3^1 = 2/3$$

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$$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$$

 $(2/3)^0 = 1$

 $(2/3)^1 = 2^1/3^1 = 2/3$

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 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ $(2/3)^{-1} =$ $(2/3)^2 = 2^2/3^2 = 4/9$ $(2/3)^{-3} =$ $(2/3)^3 = 2^3/3^3 = 8/27$

 $(2/3)^{-2} =$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2 $(2/3)^2 = 2^2/3^2 = 4/9$ (2 $(2/3)^3 = 2^3/3^3 = 8/27$ (2

 $(2/3)^{-1} =$ $(2/3)^{-2} =$ $(2/3)^{-3} =$

If the exponent is a negative integer,

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2 $(2/3)^2 = 2^2/3^2 = 4/9$ (2 $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

$$(2/3)^{-1} =$$

 $(2/3)^{-2} =$
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 $(2/3)^{-1} =$ $(2/3)^{-2} =$ $(2/3)^{-3} =$

$$(2/3)^0 = 1$$

 $(2/3)^1 = 2^1/3^1 = 2/3$
 $(2/3)^2 = 2^2/3^2 = 4/9$
 $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} =$ $(2/3)^{-2} =$ $(2/3)^{-3} =$

$(2/3)^{0}$	9 = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
$(2/3)^2 = 2^2/3^2 = 4/9$	(2
$(2/3)^3 = 2^3/3^3 = 8/27$	(2

 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} =$ $(2/3)^{-3} =$

$$(2/3)^0 = 1$$

 $(2/3)^1 = 2^1/3^1 = 2/3$ (2
 $(2/3)^2 = 2^2/3^2 = 4/9$ (2
 $(2/3)^3 = 2^3/3^3 = 8/27$ (2

 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} =$ $(2/3)^{-3} =$

$(2/3)^{(2)}$) = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
$(2/3)^2 = 2^2/3^2 = 4/9$	(2
$(2/3)^3 = 2^3/3^3 = 8/27$	(2

 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} =$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2 $(2/3)^2 = 2^2/3^2 = 4/9$ (2 $(2/3)^3 = 2^3/3^3 = 8/27$ (2

 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} =$

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$$(2/3)^{-1} = (3/2)^{1}$$

 $(2/3)^{-2} = (3/2)^{2}$
 $(2/3)^{-3} = (3/2)^{3}$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2/3) $(2/3)^2 = 2^2/3^2 = 4/9$ (2/3) $(2/3)^3 = 2^3/3^3 = 8/27$ (2/3)

 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} = (3/2)^{3}$

(2)

(2/3)	• = I
$(2/3)^1 = 2^1/3^1 = 2/3$	(2/3
$(2/3)^2 = 2^2/3^2 = 4/9$	(2/3
$(2/3)^3 = 2^3/3^3 = 8/27$	(2/3

$$(2/3)^{-1} = (3/2)^{1}$$

 $(2/3)^{-2} = (3/2)^{2}$
 $(2/3)^{-3} = (3/2)^{3}$

(2/3)) = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
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 $(2/3)^{-1} = (3/2)^{1}$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} = (3/2)^{3}$

(2/3)) = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
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 $(2/3)^{-1} = (3/2)^{1} =$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} = (3/2)^{3}$

(2/3)) = 1
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 $(2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1}$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} = (3/2)^{3}$

$(2/3)^{(2)}$) = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
$(2/3)^2 = 2^2/3^2 = 4/9$	(2
$(2/3)^3 = 2^3/3^3 = 8/27$	(2

 $(2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$ $(2/3)^{-2} = (3/2)^{2}$ $(2/3)^{-3} = (3/2)^{3}$

(2/3)	$^{0} = 1$
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
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$(2/3)^{(2)}$) = 1
$(2/3)^1 = 2^1/3^1 = 2/3$	(2
$(2/3)^2 = 2^2/3^2 = 4/9$	(2
$(2/3)^3 = 2^3/3^3 = 8/27$	(2

$$(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$$

 $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$
 $(2/3)^{-3} = (3/2)^3$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2) $(2/3)^2 = 2^2/3^2 = 4/9$ (2) $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$ $(2/3)^{-3} = (3/2)^3$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2) $(2/3)^2 = 2^2/3^2 = 4/9$ (2) $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$ $(2/3)^{-3} = (3/2)^3 =$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2) $(2/3)^2 = 2^2/3^2 = 4/9$ (2) $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$ $(2/3)^{-3} = (3/2)^3 = 3^3/2^3$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2) $(2/3)^2 = 2^2/3^2 = 4/9$ (2) $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$ $(2/3)^{-3} = (3/2)^3 = 3^3/2^3 = 27/8$

 $(2/3)^0 = 1$ $(2/3)^1 = 2^1/3^1 = 2/3$ (2) $(2/3)^2 = 2^2/3^2 = 4/9$ (2) $(2/3)^3 = 2^3/3^3 = 8/27$ (2)

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$ $(2/3)^{-3} = (3/2)^3 = 3^3/2^3 = 27/8$

$$(2/3)^1 = 2^1/3^1 = 2/3$$

 $(2/3)^2 = 2^2/3^2 = 4/9$
 $(2/3)^3 = 2^3/3^3 = 8/27$

 $(2/3)^0 = 1$

 $(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$

$$(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$$

$$(2/3)^{-3} = (3/2)^3 = 3^3/2^3 = 27/8$$

$$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$$

 $(2/3)^{0} = 1$ $(2/3)^{1} = 2^{1}/3^{1} = 2/3 \qquad (2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$ $(2/3)^{2} = 2^{2}/3^{2} = 4/9 \qquad (2/3)^{-2} = (3/2)^{2} = 3^{2}/2^{2} = 9/4$ $(2/3)^{3} = 2^{3}/3^{3} = 8/27 \qquad (2/3)^{-3} = (3/2)^{3} = 3^{3}/2^{3} = 27/8$ $(x/y)^{n} = x^{n}/y^{n} \qquad (x/y)^{-n} = (y/x)^{n} = y^{n}/x^{n}$

 $(2/3)^{0} = 1$ $(2/3)^{1} = 2^{1}/3^{1} = 2/3 \qquad (2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$ $(2/3)^{2} = 2^{2}/3^{2} = 4/9 \qquad (2/3)^{-2} = (3/2)^{2} = 3^{2}/2^{2} = 9/4$ $(2/3)^{3} = 2^{3}/3^{3} = 8/27 \qquad (2/3)^{-3} = (3/2)^{3} = 3^{3}/2^{3} = 27/8$ $(x/y)^{n} = x^{n}/y^{n} \qquad (x/y)^{-n} = (y/x)^{n} = y^{n}/x^{n}$

$$(2/3)^{0} = 1$$

$$(2/3)^{1} = 2^{1}/3^{1} = 2/3 \qquad (2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$$

$$(2/3)^{2} = 2^{2}/3^{2} = 4/9 \qquad (2/3)^{-2} = (3/2)^{2} = 3^{2}/2^{2} = 9/4$$

$$(2/3)^{3} = 2^{3}/3^{3} = 8/27 \qquad (2/3)^{-3} = (3/2)^{3} = 3^{3}/2^{3} = 27/8$$

$$(x/y)^{n} = x^{n}/y^{n} \qquad (x/y)^{-n} = (y/x)^{n} = y^{n}/x^{n}$$

$$(2/3)^0 = 1$$

$(2/3)^1 = 2^1/3^1 = 2/3$	$(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$
$(2/3)^2 = 2^2/3^2 = 4/9$	$(2/3)^{-1} = (3/2)^1 = 3^1/2^1 = 3/2$ $(2/3)^{-2} = (3/2)^2 = 3^2/2^2 = 9/4$
$(2/3)^3 = 2^3/3^3 = 8/27$	$(2/3)^{-3} = (3/2)^3 = 3^3/2^3 = 27/8$

$$(x/y)^n = x^n/y^n$$
 $(x/y)^{-n} = (y/x)^n = y^n/x^n$

$$(2/3)^{0} = 1$$

$$(2/3)^{1} = 2^{1}/3^{1} = 2/3 \qquad (2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$$

$$(2/3)^{2} = 2^{2}/3^{2} = 4/9 \qquad (2/3)^{-2} = (3/2)^{2} = 3^{2}/2^{2} = 9/4$$

$$(2/3)^{3} = 2^{3}/3^{3} = 8/27 \qquad (2/3)^{-3} = (3/2)^{3} = 3^{3}/2^{3} = 27/8$$

$$(x/y)^{n} = x^{n}/y^{n} \qquad (x/y)^{-n} = (y/x)^{n} = y^{n}/x^{n}$$

 $(2/3)^{0} = 1$ $(2/3)^{1} = 2^{1}/3^{1} = 2/3 \qquad (2/3)^{-1} = (3/2)^{1} = 3^{1}/2^{1} = 3/2$ $(2/3)^{2} = 2^{2}/3^{2} = 4/9 \qquad (2/3)^{-2} = (3/2)^{2} = 3^{2}/2^{2} = 9/4$ $(2/3)^{3} = 2^{3}/3^{3} = 8/27 \qquad (2/3)^{-3} = (3/2)^{3} = 3^{3}/2^{3} = 27/8$ $(x/y)^{n} = x^{n}/y^{n} \qquad (x/y)^{-n} = (y/x)^{n} = y^{n}/x^{n}$

Evaluate each of the following.

1.
$$5^3 =$$
 2. $3^5 =$ 3. $(-5)^3 =$

1.
$$5^3 =$$
 2. $3^5 =$ 3. $(-5)^3 =$
4. $(-5)^4 =$ 5. $2^0 =$ 6. $(-3)^0 =$

1.
$$5^3 =$$

2. $3^5 =$
3. $(-5)^3 =$
4. $(-5)^4 =$
5. $2^0 =$
6. $(-3)^0 =$

Evaluate each of the following.

)

1.
$$5^{3} =$$

= $(5)(5)(5)$
2. $3^{5} =$
3. $(-5)^{3} =$
4. $(-5)^{4} =$
5. $2^{0} =$
6. $(-3)^{0} =$

Evaluate each of the following.

V

1.
$$5^{3} = 125$$

= $(5)(5)(5)$
2. $3^{5} =$
3. $(-5)^{3} =$
4. $(-5)^{4} =$
5. $2^{0} =$
6. $(-3)^{0} =$

1.
$$5^{3} = 125$$

= $(5)(5)(5)$
2. $3^{5} =$
3. $(-5)^{3} =$
4. $(-5)^{4} =$
5. $2^{0} =$
6. $(-3)^{0} =$

1.
$$5^{3} = 125$$

= $(5)(5)(5)$
2. $3^{5} =$
= $(3)(3)(3)(3)(3)$
3. $(-5)^{3} =$
= $(3)(3)(3)(3)(3)$
4. $(-5)^{4} =$
5. $2^{0} =$
6. $(-3)^{0} =$

1.
$$5^3 = 125$$
 2. $3^5 = 243$
 3. $(-5)^3 =$

 = (5)(5)(5)
 = (3)(3)(3)(3)(3)
 3. $(-5)^3 =$

 4. $(-5)^4 =$
 5. $2^0 =$
 6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 =$ = (5)(5)(5)= (3)(3)(3)(3)(3)

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 =$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4.	$(-5)^4 =$	5.	$2^0 =$	6.	$(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 =$ = (-5)(-5)(-5)(-5)5. $2^0 =$ 6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$ = (-5)(-5)(-5)(-5)5. $2^0 =$ 6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$	5. $2^0 =$	6. $(-3)^0 =$
= (-5)(-5)(-5)(-5)		

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4.	(-5) ⁴ =	625			
= (-5)(-5)(-5)(-5)					

5. $2^0 =$ If b $\neq 0$, then b⁰ = 1. 6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$ = (-5)(-5)(-5)(-5) 5. $2^0 = 1$ If b $\neq 0$, then b⁰ = 1. 6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5) = (3)(3)(3)(3)(3) = (-5)(-5)(-5)

4. $(-5)^4 = 625$ 5. $2^0 = 1$ = (-5)(-5)(-5)(-5) If $b \neq 0$, then $b^0 = 1$.

6. $(-3)^0 =$

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$ 5. $2^0 = 1$ 6. $(-3)^0 =$ = (-5)(-5)(-5)(-5)If $b \neq 0$, then $b^0 = 1$.If $b \neq 0$, then $b^0 = 1$.

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$ 5. $2^0 = 1$ 6. $(-3)^0 = 1$ = (-5)(-5)(-5)(-5)If $b \neq 0$, then $b^0 = 1$.If $b \neq 0$, then $b^0 = 1$.

Evaluate each of the following.

1. $5^3 = 125$ 2. $3^5 = 243$ 3. $(-5)^3 = -125$ = (5)(5)(5)= (3)(3)(3)(3)(3)= (-5)(-5)(-5)

4. $(-5)^4 = 625$ 5. $2^0 = 1$ 6. $(-3)^0 = 1$ = (-5)(-5)(-5)(-5)If $b \neq 0$, then $b^0 = 1$.If $b \neq 0$, then $b^0 = 1$.

Evaluate each of the following.

1.
$$5^3 = 125$$
2. $3^5 = 243$ 3. $(-5)^3 = -125$ $= (5)(5)(5)$ $= (3)(3)(3)(3)(3)$ $= (-5)(-5)(-5)$

4.
$$(-5)^4 = 625$$
5. $2^0 = 1$ 6. $(-3)^0 = 1$ $= (-5)(-5)(-5)(-5)$ If $b \neq 0$, then $b^0 = 1$.If $b \neq 0$, then $b^0 = 1$.

7.
$$(5)^{-2} =$$
 8. $(-5)^{-2} =$ 9. $7^{-3} =$

10.
$$(-7)^{-3} =$$
 11. $8^1 =$ 12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} =$$
 8. $(-5)^{-2} =$ 9. $7^{-3} =$

10. $(-7)^{-3} =$ 11. $8^1 =$ 12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} =$$

8. $(-5)^{-2} =$
9. $7^{-3} =$

Evaluate each of the following.

7.
$$(5)^{-2} =$$

8. $(-5)^{-2} =$
9. $7^{-3} =$
If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} =$$

= 1/5²
If b \ne 0, then b^{-k} = 1/b^k.
8. $(-5)^{-2} =$
9. $7^{-3} =$

10.
$$(-7)^{-3} =$$
 11. $8^1 =$ 12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
If b \neq 0, then b^{-k} = $1/b^k$.
8. $(-5)^{-2} = 9$. $7^{-3} =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
If b \neq 0, then b^{-k} = $1/b^k$.
8. $(-5)^{-2} = 9$. $7^{-3} =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
If b \neq 0, then b^{-k} = $1/b^k$. If b \neq 0, then b^{-k} = $1/b^k$. 9. $7^{-3} =$

10.
$$(-7)^{-3} =$$
 11. $8^1 =$ 12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 9$. $7^{-3} = 1/(-5)^2$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 1/25$
= $1/(-5)^2$
9. $7^{-3} = 1/(-5)^2$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 1/25$
= $1/(-5)^2$
9. $7^{-3} = 1/(-5)^2$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 1/25$
= $1/(-5)^2$
9. $7^{-3} = 1/(-5)^2$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 1/25$
= $1/(-5)^2$
9. $7^{-3} = 1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/5^2$
8. $(-5)^{-2} = 1/25$
= $1/(-5)^2$
9. $7^{-3} = 1/343$
= $1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^{2}$
 $= 1/(-5)^{2}$
 $= 1/(-5)^{2}$
 $= 1/(-5)^{2}$
 $= 1/(-5)^{2}$

10.
$$(-7)^{-3} =$$
 11. $8^1 =$ 12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/5^{2}$
8. $(-5)^{-2} = 1/25$
 $= 1/25$
9. $7^{-3} = 1/343$
 $= 1/(-5)^{2}$
 $= 1/7^{3}$

10.
$$(-7)^{-3} =$$

11. $8^1 =$
12. $1^8 =$
If b \neq 0, then b^{-k} = 1/b^k.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

10.
$$(-7)^{-3} =$$

= $1/(-7)^3$
If b \neq 0, then b^{-k} = $1/b^k$.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

10.
$$(-7)^{-3} =$$

= $1/(-7)^3 =$
= $1/(-343)$
If b \neq 0, then b^{-k} = $1/b^k$.
11. $8^1 =$
12. $1^8 =$
12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

10.
$$(-7)^{-3} = -1/343$$

 $= 1/(-7)^{3} = -1/(-343)$
If b \neq 0, then b^{-k} = 1/b^k.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^{-2} = 1/25$
 $= 1/(-5)^{-2} = 1/25$
 $= 1/(-5)^{-2} = 1/7^{-3}$

10.
$$(-7)^{-3} = -1/343$$

= $1/(-7)^3 =$
= $1/(-343)$
If b \neq 0, then b^{-k} = $1/b^k$.
11. $8^1 =$
12. $1^8 =$
12. $1^8 =$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^{-2} = 1/25$
 $= 1/(-5)^{-2} = 1/25$
 $= 1/(-5)^{-2} = 1/7^{-3}$

10.
$$(-7)^{-3} = -1/343$$

 $= 1/(-7)^3 = b^{-1/3}$
 $= 1/(-343)$
If b \neq 0, then b^{-k} = 1/b^k.

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

10.
$$(-7)^{-3} = -1/343$$

 $= 1/(-7)^{3} = -1/(-343)$
If b \neq 0, then b^{-k} = 1/b^{k}.
11. $8^{1} = 8$
 $b^{1} = b$
12. $1^{8} = -1/(-343)$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

10.
$$(-7)^{-3} = -1/343$$
 11. $8^{1} = 8$ 12. $1^{8} = 1/(-7)^{3} = b^{1} = b$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

 $1^8 = 1$

10.
$$(-7)^{-3} = -1/343$$
 11. $8^{1} = 8$ 12.
= $1/(-7)^{3} =$
= $1/(-343)$ $b^{1} = b$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/5^2$
8. $(-5)^{-2} = 1/25$
 $= 1/25$
 $= 1/343$
 $= 1/(-5)^2$
 $= 1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

10.
$$(-7)^{-3} = -1/343$$
 11. $8^{1} = 8$ 12. $1^{8} = 1$
= $1/(-7)^{3} = b^{1} = b$

Evaluate each of the following.

7.
$$(5)^{-2} = 1/25$$

= $1/25$
 $= 1/(-5)^2 = 1/25$
 $= 1/(-5)^2$
 $= 1/7^3$

If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$. If $b \neq 0$, then $b^{-k} = 1/b^k$.

10.
$$(-7)^{-3} = -1/343$$
 11. $8^{1} = 8$ 12. $1^{8} = 1$
= $1/(-7)^{3} = b^{1} = b$

Evaluate each of the following.

13. $(1/2)^5 =$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$

16.
$$(-2/3)^{-3} =$$
 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

Evaluate each of the following.

13. $(1/2)^5 =$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$

Evaluate each of the following.

13. $(1/2)^5 =$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$

Evaluate each of the following.

- 13. $(1/2)^5 =$ $(x/y)^n = x^n/y^n$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$
- 16. $(-2/3)^{-3} =$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

Evaluate each of the following.

- 13. $(1/2)^5 =$ = $1^{5}/2^{5}$ $(x/y)^n = x^n/y^n$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$
- 16. $(-2/3)^{-3} =$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

Evaluate each of the following.

13.
$$(1/2)^5 = 1/32$$

= $1^5/2^5$
 $(x/y)^n = x^n/y^n$
14. $(-1/2)^5 = 15. (-2/3)^2 =$

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Evaluate each of the following.

- 13. $(1/2)^5 = 1/32$ 14. $(-1/2)^5 =$ 15. $(-2/3)^2 =$
 $= 1^5/2^5$ $(x/y)^n = x^n/y^n$ $(x/y)^n = x^n/y^n$
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Evaluate each of the following.

13.
$$(1/2)^5 = 1/32$$
 14. $(-1/2)^5 =$
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 $= 1^5/2^5$
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 $(x/y)^n = x^n/y^n$
 $(x/y)^n = x^n/y^n$

Evaluate each of the following.

13.
$$(1/2)^5 = 1/32$$
 14. $(-1/2)^5 = -1/32$
 15. $(-2/3)^2 =$
 $= 1^5/2^5$
 $= (-1)^5/2^5$
 $(x/y)^n = x^n/y^n$
 $(x/y)^n = x^n/y^n$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 =$
$= 1^{5}/2^{5}$	$=(-1)^{5}/2^{5}$	
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 =$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 =$
$= 1^{5}/2^{5}$	$=(-1)^{5}/2^{5}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ 17	7. $(3/5)^2 =$	18.	$(3/5)^{-3} =$
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Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

 $(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}}$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$	17. $(3/5)^2 =$	18. $(3/5)^{-3} =$
$=(-3/2)^3$		

 $(x/y)^{-n} = (y/x)^n$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^{2}/3^{2}$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ = $(-3/2)^3$ 17. $(3/5)^2 =$ 18. $(3/5)^{-3} =$

 $(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$

Evaluate each of the following.

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^{2}/3^{2}$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} =$ $= (-3/2)^3 =$ $= (-3)^3/2^3$ (x/y)⁻ⁿ = (y/x)ⁿ = yⁿ/xⁿ

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16.
$$(-2/3)^{-3} = -27/8$$

= $(-3/2)^3 =$
= $(-3)^3/2^3$
(x/y)⁻ⁿ = (y/x)ⁿ = yⁿ/xⁿ

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 =$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$		
$=(-3)^{3/2^{3}}$		
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$		

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

17. $(3/5)^2 =$	18. $(3/5)^{-3} =$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 =$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	
$=(-3)^{3}/2^{3}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$		

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$		

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$	l	

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	
$(x/y)^{-n} = (y/x)^n = y^n/x^n$	l	$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	$=(5/3)^3$
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
$(x/y)^{-n} = (y/x)^n = y^n/x^n$	1	$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$	$=(5/3)^3$
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$		$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 =$	9/25	18. $(3/5)^{-3} =$
$=(-3/2)^3=$	$= 3^2/5^2$		$=(5/3)^3=$
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{z}$	/y ⁿ	$= 5^{3}/3^{3}$
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$			$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} = 125/27$
$=(-3/2)^3=$	$= 3^2/5^2$	$=(5/3)^3=$
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$= 5^{3}/3^{3}$
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$	l	$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$

13. $(1/2)^5 = 1/32$	14. $(-1/2)^5 = -1/32$	15. $(-2/3)^2 = 4/9$
$= 1^{5}/2^{5}$	$=(-1)^{5/2^{5}}$	$=(-2)^2/3^2$
$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$	$(\mathbf{x}/\mathbf{y})^{n} = \mathbf{x}^{n}/\mathbf{y}^{n}$

16. $(-2/3)^{-3} = -27/8$	17. $(3/5)^2 = 9/25$	18. $(3/5)^{-3} = 125/27$
$=(-3/2)^3=$	$= 3^2/5^2$	$=(5/3)^3=$
$=(-3)^{3/2^{3}}$	$(\mathbf{x}/\mathbf{y})^{\mathbf{n}} = \mathbf{x}^{\mathbf{n}}/\mathbf{y}^{\mathbf{n}}$	$= 5^{3}/3^{3}$
$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$		$(\mathbf{x}/\mathbf{y})^{-\mathbf{n}} = (\mathbf{y}/\mathbf{x})^{\mathbf{n}} = \mathbf{y}^{\mathbf{n}}/\mathbf{x}^{\mathbf{n}}$

Evaluate each of the following.

13.
$$(1/2)^5 = 1/32$$
14. $(-1/2)^5 = -1/32$ 15. $(-2/3)^2 = 4/9$ $= 1^5/2^5$ $= (-1)^5/2^5$ $= (-2)^2/3^2$ $(x/y)^n = x^n/y^n$ $(x/y)^n = x^n/y^n$ $(x/y)^n = x^n/y^n$

16.
$$(-2/3)^{-3} = -27/8$$

 $= (-3/2)^3 = -27/8$
 $= (-3)^3/2^3$
 $(x/y)^n = x^n/y^n$
 $(x/y)^{-n} = (y/x)^n = y^n/x^n$
 $(x/y)^{-n} = (y/x)^n = y^n/x^n$
 $(x/y)^{-n} = (y/x)^n = y^n/x^n$