Proprietà delle radici

Teoria	Esempio
$\sqrt[b]{a \cdot c} = \sqrt[b]{a} \cdot \sqrt[b]{c}$	$\sqrt[2]{3 \cdot 2} = \sqrt[2]{3} \cdot \sqrt[2]{2}$
$\sqrt[b]{a : c} = \sqrt[b]{a} : \sqrt[b]{c}$	$\sqrt[2]{3 : 2} = \sqrt[2]{3} : \sqrt[2]{2}$
$(\sqrt[b]{a})^{\mathbf{c}} = \sqrt[b]{a^c}$	$(\sqrt[2]{3})^4 = \sqrt[2]{3^4}$
$\sqrt[c]{\sqrt[b]{a}} = \sqrt[c \cdot b]{a}$	$\sqrt[2]{\sqrt[3]{4}} = \sqrt[2 \cdot 3]{4} = \sqrt[6]{4}$
$a \cdot \sqrt[b]{c} = \sqrt[b]{a^b \cdot c}$	$2 \cdot \sqrt[3]{4} = \sqrt[3]{2^3 \cdot 4}$

Proprietà delle potenze

Teoria	Esempio
$\mathbf{a^b \cdot a^d = a^{(b+c)}}$	$2^3 \cdot 2^2 \cdot 2^5 = 2^{(3+2+5)} = 2^{10}$
$\mathbf{a^b : a^c = a^{(b-c)}}$	$2^6 : 2^2 : 2^1 = 2^{(6-2-1)} = 2^3$ $3^8 : 3^2 : 3^5 = 3^{(8-2-5)} = 2^{10}$
$\mathbf{(a^b)^c = a^{(b \cdot c)}}$	$(2^3)^4 = 2^{(3 \cdot 4)} = 2^{12}$
$\mathbf{a^c \cdot b^c = (a \cdot b)^c}$	$2^3 \cdot 3^3 = (2 \cdot 3)^3 = 6^3$
$\mathbf{a^c : b^c = (a : b)^c}$	$4^3 : 2^3 = (4 : 2)^3 = 2^3$

Operazioni tra frazioni	
Operazione	**Esempio**
Somma (**mcm**)	$\frac{2}{3}+\frac{3}{4}=\frac{(4\cdot 2)+(3\cdot 3)}{\mathbf{12}}=\frac{8+9}{12}=\frac{17}{12}$
Differenza (**mcm**)	$\frac{5}{2}-\frac{2}{3}=\frac{(3\cdot 5)-(2\cdot 2)}{\mathbf{6}}=\frac{15-4}{6}=\frac{11}{6}$
Prodotto (**semplificazione in croce)**	$\frac{3}{4}\cdot\frac{6}{8}=\frac{3}{\color{red}4}\cdot\frac{\color{red}6}{8}=\frac{3}{\color{red}2}\cdot\frac{\color{red}3}{8}=\frac{3\cdot 4}{2\cdot 8}=\frac{12}{16}=\frac{12:4}{16:4}=\frac{3}{4}$
Divisione (**moltiplicare la prima per l'inverso della seconda)**	$\frac{1}{3}:\frac{\color{red}2}{\color{blue}9}=\frac{1}{3}\cdot\frac{\color{blue}9}{\color{red}2}=\frac{1}{\color{orange}3}\cdot\frac{\color{orange}9}{2}=\frac{1}{\color{orange}1}\cdot\frac{\color{orange}3}{2}=\frac{1\cdot 3}{1\cdot 2}=\frac{3}{2}$

x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
6	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
7	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128
9	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144
10	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
11	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176
12	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192
13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208
14	14	28	42	56	70	84	98	112	126	140	154	168	182	196	210	224
15	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
16	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256

$\frac{1}{2}+\frac{1}{3}=$

$\frac{1}{3}+\frac{2}{5}=$

$\frac{7}{4}-\frac{3}{2}=$

$\frac{13}{15}-\frac{4}{5}=$

$\frac{4}{3}\cdot\frac{9}{8}=$

$\frac{12}{7}\cdot\frac{28}{2}=$

$\frac{35}{8}\cdot\frac{14}{7}=$

$\frac{2}{5}:\frac{8}{15}=$

$\frac{12}{7}:\frac{24}{35}=$

$(5^3\cdot 5^6)^2=$

$(5^6:5^3)^2=$

$(8^6\cdot 8:8^2)^5:(8^4)^3=$

$7^2-2^2\cdot 3-7^0=$

$1^{36}\cdot 36^1=$

$\{[(6^6:6^2)^2]^3\}^0=$

$(5^6:5^3\cdot 6)^2=$

$\frac{2^2\cdot 3^2}{\sqrt[2]{36}}:\frac{12}{\sqrt[2]{36}}=$

$\frac{\sqrt[2]{6}\cdot\sqrt[2]{2}}{\sqrt[2]{16}}\cdot\frac{4}{\sqrt[2]{3}}=$

$\frac{\sqrt[2]{9\cdot 25}}{2+\sqrt[2]{9}}:\frac{\sqrt[2]{60}}{4^2}=$