

calc_decimal_example

Student Group

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$\$I.\text{quad}$ Calculation example for decimal value

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\begin{align*} \begin{smallmatrix} \color{blue}{\text{value}}: & \color{blue}{} & \color{blue}{2} \\ & \color{blue}{6} & \color{blue}{5} & \color{blue}{8.} & \color{blue}{4} & \color{blue}{7} \\ \color{blue}{\text{index}}: & \color{blue}{i} & \color{blue}{3} & \color{blue}{2} & \\ \color{blue}{1} & \color{blue}{0} & \color{blue}{-1} & \color{blue}{-2} \\ \color{blue}{\text{place value}}: & \color{blue}{B^i} & \color{blue}{10^3} & \color{blue}{10^2} \\ & \color{blue}{10^1} & \color{blue}{10^0} & \color{blue}{10^{-1}} & \color{blue}{10^{-2}} \\ \color{blue}{} & \color{blue}{} & \color{blue}{1000} & \color{blue}{100} & \color{blue}{10} & \\ \color{blue}{1} & \color{blue}{0.1} & \color{blue}{0.01} \\ \color{blue}{\text{digit}}: & \\ \color{blue}{z_i} & \color{blue}{2} & \color{blue}{6} & \color{blue}{5} & \color{blue}{8} & \\ \color{blue}{4} & \color{blue}{7} \\ \color{blue}{\text{calc.}}: & \color{blue}{z_i \cdot B^i} & \\ \color{blue}{2000} & \color{blue}{600} & \color{blue}{50} & \color{blue}{8} & \color{blue}{0.4} \\ & \color{blue}{0.07} \\ \color{blue}{\text{result}}: & \color{blue}{\sum_i z_i \cdot B^i} & & \\ \color{blue}{2658.47} \end{smallmatrix} \end{align*}
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\begin{align*} \text{value} & \& \& 2 \& \& 6 \& \& 5 \& \& 8 , \& \& 4 \& \& 7 \\ \text{index} & \& i \& \& 3 \& \& 2 \& \& 1 \& \& 0 \& \& -1 \\ & \& -2 \\ \text{place value} & \& B^i \& \& 10^3 \& \& 10^2 \& \& 10^1 \& \& 10^0 \& \& 10^{-1} \& \& 10^{-2} \\ \text{digit} & \& z_i \\ \text{calc.} & \& z_i \cdot B^i \\ \text{Result} & \& \sum_i z_i \cdot B^i \\ & \& 2658,47 \end{align*}
```

value	2	6	5	8 ,	4	7	
index	i	3	2	1	0	-1	-2
place value	B^i	$\text{\small{10}^3}$	$\text{\small{10}^2}$	$\text{\small{10}^1}$	$\text{\small{10}^0}$	$\text{\small{10}^{-1}}$	$\text{\small{10}^{-2}}$
digit	z_i	2	6	5	8	4	7
calc.	$z_i \cdot B^i$	2000	600	50	8	0.4	0.07
Result	$\sum_i z_i \cdot B^i$	2658,47					
value	2	6	5	8 ,	4	7	
index	i	3	2	1	0	-1	-2
$\text{\small{10}^3}$	$\text{\small{10}^2}$	$\text{\small{10}^1}$	$\text{\small{10}^0}$	$\text{\small{10}^{-1}}$	$\text{\small{10}^{-2}}$		
$\text{\small{1000}}$	$\text{\small{100}}$	$\text{\small{10}}$	$\text{\small{1}}$	$\text{\small{0.1}}$	$\text{\small{0.01}}$		
z_i	2	6	5	8	4	7	
$z_i \cdot B^i$	2000	600	50	8	0.4	0.07	
Result	$\sum_i z_i \cdot B^i$	2658,47					
aus (2+3)	$\text{\small{10}^3} = \text{\small{10}^2} = 0$			$\text{\small{10}^0}$ und $\text{\small{10}^{-1}}$ sind damit definiert			
$\text{\small{10}^3}$	$\text{\small{10}^2}$	$\text{\small{10}^1}$	$\text{\small{10}^0}$	$\text{\small{10}^{-1}}$	$\text{\small{10}^{-2}}$		
aus (6)	$\text{\small{10}^3} = \text{\small{10}^2} = 1$			$\text{\small{10}^0}$ ist damit bekannt, wenn $\text{\small{10}^1}$ bekannt ist			
$\text{\small{10}^3}$	$\text{\small{10}^2}$	$\text{\small{10}^1}$	$\text{\small{10}^0}$	$\text{\small{10}^{-1}}$	$\text{\small{10}^{-2}}$		

[illegible]

\$II.\quad\$ Betrachtung der Spannungsverstärkung

[illegible]

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