

calc_decimal_example

Student Group

First Name	Surname	Matrikel Nr.

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\color{black}{7} \\ \color{black}{\text{index}:} & \color{black}{i} & \color{black}{3} & & \color{black}{2} & \color{black}{1} & \color{black}{0} & \color{black}{-1} & \color{black}{-2} \\ \color{blue}{\text{place factor}:} & \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{white}{} & \color{white}{} & \color{white}{1000} & \color{white}{100} & \color{white}{10} & \color{white}{1} & \color{white}{0.1} & \color{white}{0.01} \\ \color{white}{\text{digits}:} & \color{white}{z_i} & \color{white}{2} & \color{white}{6} & \color{white}{5} & \color{white}{8} & \color{white}{4} & \color{white}{7} \\ \color{white}{\text{place value}:} & \color{white}{z_i \cdot B^i} & \color{white}{2000} & \color{white}{600} & \color{white}{50} & \color{white}{8} & \color{white}{0.4} & \color{white}{0.07} \\ \color{white}{\text{result}:} & \color{white}{\sum_i z_i \cdot B^i} & & & & & & & \color{white}{2658.47} \\ \end{smallmatrix} \end{align*}
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3. calculate the place factor

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\begin{align*} \begin{smallmatrix} \color{black}{\text{numeral}:} & \color{black}{} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8.} & \color{black}{4} & \color{black}{7} \\ \color{black}{\text{index}:} & \color{black}{i} & \color{black}{3} & \color{black}{2} & \color{black}{1} & \color{black}{0} & \color{black}{-1} & \color{black}{-2} \\ \color{blue}{\text{place factor}:} & \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{white}{\text{digits}:} & \color{white}{z_i} & \color{white}{2} & \color{white}{6} & \color{white}{5} & \color{white}{8} & \color{white}{4} & \color{white}{7} \\ \color{white}{\text{place value}:} & \color{white}{z_i \cdot B^i} & \color{white}{2000} & \color{white}{600} & \color{white}{50} & \color{white}{8} & \color{white}{0.4} & \color{white}{0.07} \\ \color{white}{\text{result}:} & \color{white}{\sum_i z_i \cdot B^i} & & & & & & & \color{white}{2658.47} \\ \end{smallmatrix} \end{align*}
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4. write down each digit of the numeral

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\begin{align*} \begin{smallmatrix} \color{black}{\text{numeral}:} & \color{black}{} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8.} & \color{black}{4} & \color{black}{7} \\ \color{black}{\text{index}:} & \color{black}{i} & \color{black}{3} & \color{black}{2} & \color{black}{1} & \color{black}{0} & \color{black}{-1} & \color{black}{-2} \\ \color{black}{\text{place factor}:} & \color{black}{B^i} & \color{black}{10^3} & \color{black}{10^2} & \color{black}{10^1} & \color{black}{10^0} & \color{black}{10^{-1}} & \color{black}{10^{-2}} \\ \color{black}{} & \color{black}{} & \color{black}{1000} & \color{black}{100} & \color{black}{10} & \color{black}{1} & \color{black}{0.1} & \color{black}{0.01} \\ \color{blue}{\text{digits}:} & \color{blue}{z_i} & \color{blue}{2} & \color{blue}{6} & \color{blue}{5} & \color{blue}{8} & \color{blue}{4} & \color{blue}{7} \\ \color{white}{\text{place value}:} & \color{white}{z_i \cdot B^i} & \color{white}{2000} & \color{white}{600} & \color{white}{50} & \color{white}{8} & \color{white}{0.4} & \color{white}{0.07} \\ \color{white}{\text{result}:} & \color{white}{\sum_i z_i \cdot B^i} & & & & & & & \color{white}{2658.47} \\ \end{smallmatrix} \end{align*}
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5. calculate the place value

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\begin{align*} \begin{smallmatrix} \color{black}{\text{numeral:}} & \color{black}{} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8.} & \color{black}{4} & \color{black}{7} \\ \color{black}{\text{index:}} & \color{black}{i} & \color{black}{3} & \color{black}{2} & \color{black}{1} & \color{black}{0} & \color{black}{-1} & \color{black}{-2} \\ \color{black}{\text{place factor:}} & \color{black}{B^i} & \color{black}{10^3} & \color{black}{10^2} & \color{black}{10^1} & \color{black}{10^0} & \color{black}{10^{-1}} & \color{black}{10^{-2}} \\ \color{black}{\text{digits:}} & \color{black}{z_i} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8} & \color{black}{4} & \color{black}{7} \\ \color{blue}{\text{place value:}} & \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{white}{\text{result:}} & \color{white}{\sum_i z_i \cdot B^i} & \color{white}{2658.47} \end{smallmatrix} \end{align*}
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6. Add all place values

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\begin{align*} \begin{smallmatrix} \color{black}{\text{numeral:}} & \color{black}{} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8.} & \color{black}{4} & \color{black}{7} \\ \color{black}{\text{index:}} & \color{black}{i} & \color{black}{3} & \color{black}{2} & \color{black}{1} & \color{black}{0} & \color{black}{-1} & \color{black}{-2} \\ \color{black}{\text{place factor:}} & \color{black}{B^i} & \color{black}{10^3} & \color{black}{10^2} & \color{black}{10^1} & \color{black}{10^0} & \color{black}{10^{-1}} & \color{black}{10^{-2}} \\ \color{black}{\text{digits:}} & \color{black}{z_i} & \color{black}{2} & \color{black}{6} & \color{black}{5} & \color{black}{8} & \color{black}{4} & \color{black}{7} \\ \color{black}{\text{place value:}} & \color{black}{z_i \cdot B^i} & \color{black}{2000} & \color{black}{600} & \color{black}{50} & \color{black}{8} & \color{black}{0.4} & \color{black}{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*} \begin{smallmatrix} \color{blue}{\text{numeral:}} & \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 factor:}} & \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}{\text{digits:}} & \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{place value:}} & \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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First: But space between the digits to see the thousands, hundreds, tens, ones, tenths, hundredths

