

8 Semplificare una frazione

Teoria a pag. 340

PER SEMPLIFICARE LA FRAZIONE

$$\frac{16}{24}$$

puoi dividere numeratore e denominatore per un divisore comune, per esempio 2:

$$\frac{16^8}{24_{12}} = \frac{8}{12}$$

la frazione non è irriducibile e può essere ancora semplificata

puoi dividere numeratore e denominatore per il loro MCD, cioè 8:

$$\frac{16^2}{24_3} = \frac{2}{3}$$

la frazione ottenuta è irriducibile o ridotta ai minimi termini perché i suoi termini sono primi tra loro

Determina i divisori comuni (escludi 1!) ai due termini delle frazioni date e semplificalle dividendo numeratore e denominatore per ciascun divisore comune.

FRAZIONE	DIVISORI COMUNI AI DUE TERMINI DELLA FRAZIONE	FRAZIONI SEMPLIFICATE
$\frac{15}{20}$	5	$\frac{3}{4}$
$\frac{30}{40}$	2; 5; 10	$\frac{15 \cdot 6 \cdot 3}{20 \cdot 8 \cdot 4}$
$\frac{18}{24}$	2; 3; 6	$\frac{9 \cdot 6 \cdot 3}{12 \cdot 8 \cdot 4}$

Riduci ai minimi termini le seguenti frazioni con il metodo delle semplificazioni successive, come nell'esempio svolto.

$$\frac{14}{49} = \frac{14^2}{49^2} = \frac{2}{7}$$

$$\frac{25}{35} = \frac{5}{7}, \quad \frac{28}{32} = \frac{7}{8}, \quad \frac{8}{20} = \frac{2}{5}, \quad \frac{45}{27} = \frac{5}{3}, \quad \frac{42}{48} = \frac{7}{8}$$

$$\frac{21}{49} = \frac{3}{7}, \quad \frac{84}{90} = \frac{14}{15}, \quad \frac{16}{36} = \frac{4}{9}, \quad \frac{44}{64} = \frac{11}{16}, \quad \frac{30}{45} = \frac{2}{3}$$

$$\frac{56}{63} = \frac{8}{9}, \quad \frac{60}{36} = \frac{5}{3}, \quad \frac{30}{55} = \frac{6}{11}, \quad \frac{50}{70} = \frac{5}{7}, \quad \frac{90}{72} = \frac{5}{4}$$

$$\frac{84}{96} = \frac{7}{8}, \quad \frac{98}{56} = \frac{7}{4}, \quad \frac{120}{80} = \frac{3}{2}, \quad \frac{64}{128} = \frac{1}{2}, \quad \frac{56}{84} = \frac{2}{3}$$

$$194 \frac{102}{68} \left[\begin{smallmatrix} 3 \\ 2 \end{smallmatrix} \right] \quad \frac{135}{81} \left[\begin{smallmatrix} 5 \\ 3 \end{smallmatrix} \right] \quad \frac{76}{104} \left[\begin{smallmatrix} 19 \\ 26 \end{smallmatrix} \right] \quad \frac{136}{124} \left[\begin{smallmatrix} 34 \\ 31 \end{smallmatrix} \right] \quad \frac{63}{168} \left[\begin{smallmatrix} 3 \\ 8 \end{smallmatrix} \right]$$

$$195 \frac{132}{108} \left[\begin{smallmatrix} 11 \\ 9 \end{smallmatrix} \right] \quad \frac{168}{182} \left[\begin{smallmatrix} 12 \\ 13 \end{smallmatrix} \right] \quad \frac{180}{216} \left[\begin{smallmatrix} 5 \\ 6 \end{smallmatrix} \right] \quad \frac{128}{80} \left[\begin{smallmatrix} 8 \\ 5 \end{smallmatrix} \right] \quad \frac{280}{60} \left[\begin{smallmatrix} 14 \\ 3 \end{smallmatrix} \right]$$

$$196 \frac{168}{126} \left[\begin{smallmatrix} 4 \\ 3 \end{smallmatrix} \right] \quad \frac{160}{288} \left[\begin{smallmatrix} 5 \\ 9 \end{smallmatrix} \right] \quad \frac{150}{275} \left[\begin{smallmatrix} 6 \\ 11 \end{smallmatrix} \right] \quad \frac{175}{315} \left[\begin{smallmatrix} 5 \\ 9 \end{smallmatrix} \right] \quad \frac{112}{192} \left[\begin{smallmatrix} 7 \\ 12 \end{smallmatrix} \right]$$

$$197 \frac{104}{120} \left[\begin{smallmatrix} 13 \\ 15 \end{smallmatrix} \right] \quad \frac{189}{147} \left[\begin{smallmatrix} 9 \\ 7 \end{smallmatrix} \right] \quad \frac{72}{204} \left[\begin{smallmatrix} 6 \\ 17 \end{smallmatrix} \right] \quad \frac{252}{162} \left[\begin{smallmatrix} 14 \\ 9 \end{smallmatrix} \right] \quad \frac{165}{275} \left[\begin{smallmatrix} 3 \\ 5 \end{smallmatrix} \right]$$

$$198 \frac{225}{300} \left[\begin{smallmatrix} 3 \\ 4 \end{smallmatrix} \right] \quad \frac{180}{450} \left[\begin{smallmatrix} 2 \\ 5 \end{smallmatrix} \right] \quad \frac{280}{210} \left[\begin{smallmatrix} 4 \\ 3 \end{smallmatrix} \right] \quad \frac{136}{208} \left[\begin{smallmatrix} 17 \\ 26 \end{smallmatrix} \right] \quad \frac{126}{336} \left[\begin{smallmatrix} 3 \\ 8 \end{smallmatrix} \right]$$

$$199 \frac{288}{240} \left[\begin{smallmatrix} 6 \\ 5 \end{smallmatrix} \right] \quad \frac{360}{456} \left[\begin{smallmatrix} 15 \\ 19 \end{smallmatrix} \right] \quad \frac{325}{130} \left[\begin{smallmatrix} 5 \\ 2 \end{smallmatrix} \right] \quad \frac{135}{300} \left[\begin{smallmatrix} 9 \\ 20 \end{smallmatrix} \right] \quad \frac{128}{240} \left[\begin{smallmatrix} 8 \\ 15 \end{smallmatrix} \right]$$

$$200 \frac{360}{495} \left[\begin{smallmatrix} 8 \\ 11 \end{smallmatrix} \right] \quad \frac{280}{360} \left[\begin{smallmatrix} 7 \\ 9 \end{smallmatrix} \right] \quad \frac{144}{378} \left[\begin{smallmatrix} 8 \\ 21 \end{smallmatrix} \right] \quad \frac{390}{990} \left[\begin{smallmatrix} 13 \\ 33 \end{smallmatrix} \right] \quad \frac{252}{448} \left[\begin{smallmatrix} 9 \\ 16 \end{smallmatrix} \right]$$

Riduci ai minimi termini le frazioni dividendo numeratore e denominatore per il loro MCD.

$$201 \frac{32}{40} \left[\begin{smallmatrix} 4 \\ 5 \end{smallmatrix} \right] \quad \frac{96}{72} \left[\begin{smallmatrix} 4 \\ 3 \end{smallmatrix} \right] \quad \frac{80}{144} \left[\begin{smallmatrix} 5 \\ 9 \end{smallmatrix} \right] \quad \frac{36}{90} \left[\begin{smallmatrix} 2 \\ 5 \end{smallmatrix} \right] \quad \frac{48}{180} \left[\begin{smallmatrix} 4 \\ 15 \end{smallmatrix} \right]$$

$$202 \frac{92}{138} \left[\begin{smallmatrix} 2 \\ 3 \end{smallmatrix} \right] \quad \frac{110}{176} \left[\begin{smallmatrix} 5 \\ 8 \end{smallmatrix} \right] \quad \frac{150}{125} \left[\begin{smallmatrix} 6 \\ 5 \end{smallmatrix} \right] \quad \frac{98}{126} \left[\begin{smallmatrix} 7 \\ 9 \end{smallmatrix} \right] \quad \frac{72}{84} \left[\begin{smallmatrix} 6 \\ 7 \end{smallmatrix} \right]$$

$$203 \frac{63}{42} \left[\begin{smallmatrix} 3 \\ 2 \end{smallmatrix} \right] \quad \frac{96}{192} \left[\begin{smallmatrix} 1 \\ 2 \end{smallmatrix} \right] \quad \frac{200}{140} \left[\begin{smallmatrix} 10 \\ 7 \end{smallmatrix} \right] \quad \frac{84}{196} \left[\begin{smallmatrix} 3 \\ 7 \end{smallmatrix} \right] \quad \frac{120}{216} \left[\begin{smallmatrix} 5 \\ 9 \end{smallmatrix} \right]$$

Proseguiamo le attività