8.1.6
①

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Gr 8 Wiskunde / Mathematics

Breuke / Fractions (2)

1. Skakel om
2. ÷ → X, flip
3. X ⇉
4. + en − KGV

1. Convert
2. ÷ → X, flip
3. X ⇉
4. + en − KGV

1. ÷ van Breuke / ÷ of Fractions

↳ sodra jy ÷ $\frac{a}{b}$ sien
↳ verander ÷ na X
↳ "flip" breuk na ÷

↳ when you see ÷ $\frac{a}{b}$
↳ Change ÷ to X
↳ "flip" fraction after ÷

a) $\frac{3}{5} \div \frac{3}{10}$

$= \frac{3}{5} \times \frac{10}{3}$

$= \frac{3 \times 10}{5 \times 3}$

$= \frac{30}{15}$

$= 2$

- Nou is dit X ⇉
- Now it is X ⇉

OR $\frac{\cancel{3}}{\cancel{5}1} \times \frac{\cancel{10}2}{\cancel{3}}$

$= 2$

b) $3\frac{1}{2} \div 2\frac{2}{3}$

1. Skakel om / Convert

$= \frac{7}{2} \div \frac{8}{3}$

$= \frac{7}{2} \times \frac{3}{8}$

$= \frac{7 \times 3}{2 \times 8}$

$= \frac{21}{16}$ / $1\frac{5}{16}$

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c) $\frac{2}{7} \times \frac{4}{9} \div \frac{1}{3}$

$= \frac{2}{7} \times \frac{4}{9} \times \frac{3}{1}$

$= \frac{2 \times 4 \times 3}{7 \times 9 \times 1}$

$= \frac{24 \div 3}{63 \div 3}$ vereenvoudig / simplify

$= \frac{8}{21}$

2. Gemengde bewerkings / Mixed Calculations

a) $2\frac{1}{5} - \frac{3}{4} \times 1\frac{1}{2}$ 1. Skakel om / Convert

$= \frac{11}{5} - \frac{3}{4} \times \frac{3}{2}$

$= \frac{11 \times 8}{5 \times 8} - \frac{9 \times 5}{8 \times 5}$

$= \frac{88}{40} - \frac{45}{40}$

$= \frac{43}{40} \;/\; 1\frac{3}{40}$

! Volgorde van bewerking NB!
Order of operation
+ en − KGV / + and − LCM

LCM: 5 10 15 20 25 30 35 (40) 45
8 16 24 32 (40) 48

b) $\left(-1\frac{5}{6} + 2\frac{1}{2}\right)^2 \times \frac{2}{3}$ 1. Skakel om / Convert

$= \left(-\frac{11}{6} + \frac{5 \times 3}{2 \times 3}\right)^2 \times \frac{2}{3}$

$= \left(-\frac{11}{6} + \frac{15}{6}\right)^2 \times \frac{2}{3}$

$= \left(\frac{-11+15}{6}\right)^2 \times \frac{2}{3}$

$= \left(\frac{4}{6}\right)^2 \times \frac{2}{3}$

$= \left(\frac{2}{3}\right)^2 \times \frac{2}{3}$

$= \left(\frac{2}{3}\right)\left(\frac{2}{3}\right) \times \frac{2}{3}$

$= \frac{8}{27}$

! Volgorde van bewerking ( ) !
Order of operation
KGV: 2 4 (6) 8 10
(6) 12 18 24

( ) beteken × →
is also × →

Jy kan enige tyd in 'n breuke som 'n breuk vereenvoudig ...
At any time in a question, you are allowed to simplify a fraction ...