



# Drukbare assessering CAMI Wiskunde: Graad 9

## Breuke

### 1. Tel die breuke bymekaar.

1.1  $\frac{1}{3} - \frac{19}{60}$

1.2  $\frac{1}{4} + \frac{2}{9}$

1.3  $\frac{1}{3} - \frac{3}{4} + \frac{1}{2}$

1.4  $\frac{1}{4} - \frac{6}{7} + \frac{6}{8}$

1.5  $\frac{2}{10} + \frac{2}{3} - \frac{3}{5}$

### 2. Trek die gemengde breuke van mekaar af.

2.1  $8\frac{1}{8} - 1\frac{3}{6}$

2.2  $8\frac{3}{4} - 6\frac{5}{6}$

2.3  $7\frac{6}{8} - 3\frac{4}{5}$

2.4  $9\frac{1}{7} - 4\frac{1}{3}$

2.5  $9\frac{2}{7} + 8\frac{9}{11} - 2\frac{8}{11}$

### 3. Vermenigvuldig die breuke en gee die antwoord as 'n gemengde getal.

3.1  $\frac{4}{7}$  of 9

3.2  $\frac{1}{6}$  of 8

3.3  $\frac{13}{23}$  of 15

### 4. Deling met breuke.

4.1  $\frac{3}{4} \div \frac{1}{2}$

4.2  $\frac{7}{9} \div \frac{6}{10}$



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### 5. Breuke met veranderlikes.

$$5.1 \quad \frac{8}{n} - \frac{6}{nx} + \frac{5}{x}$$

$$5.2 \quad \frac{7}{e^7} - \frac{2}{e^5}$$

$$5.3 \quad \frac{8e}{m} - \frac{2m}{e}$$

$$5.4 \quad \frac{9}{xy^7} - \frac{2}{x^2y^9} - \frac{3}{x^9y^5}$$

### 6. Vermenigvuldig breuke met veranderlikes.

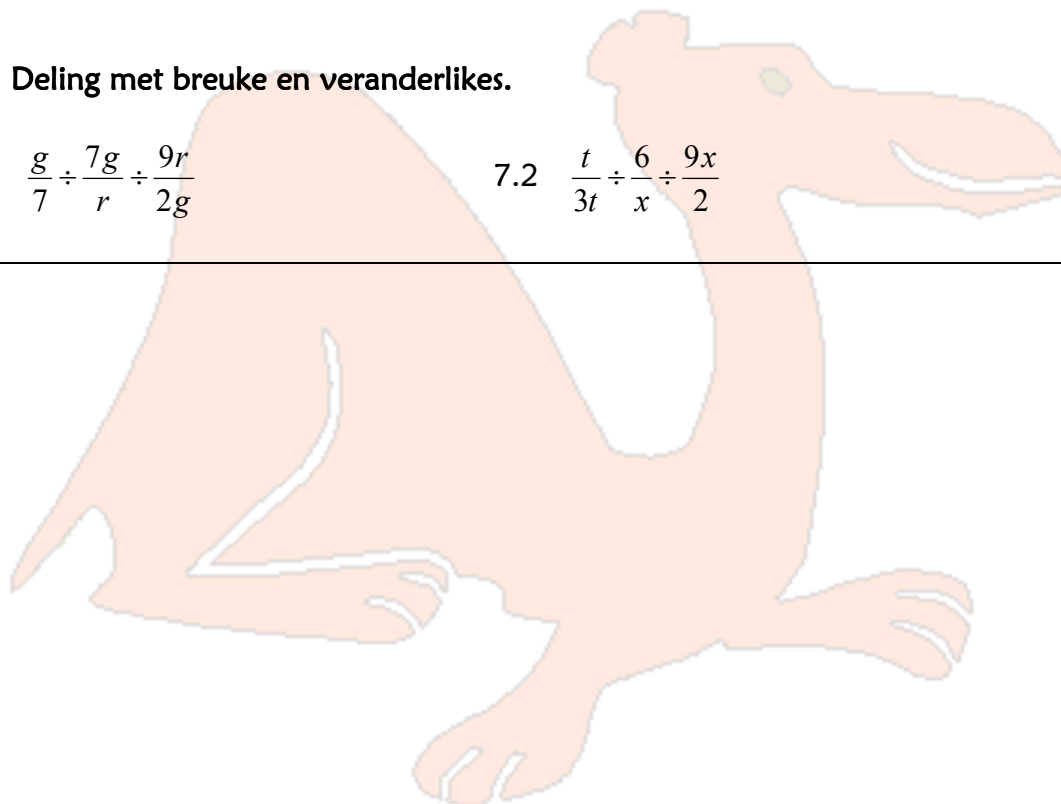
$$6.1 \quad \frac{5t^4}{6x^8} \times \frac{5x^7}{5t}$$

$$6.2 \quad \frac{g^4}{p^8z^6} \times \frac{p^4z^7}{g^8}$$

### 7. Deling met breuke en veranderlikes.

$$7.1 \quad \frac{g}{7} \div \frac{7g}{r} \div \frac{9r}{2g}$$

$$7.2 \quad \frac{t}{3t} \div \frac{6}{x} \div \frac{9x}{2}$$





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### MEMO

1. Tel die breuke bymekaar. [2.2.2.4; 2.2.2.5; 2.2.2.6; 2.2.2.7; 2.2.2.8]

$$1.1 \quad \frac{1}{3} - \frac{19}{60} = \frac{20-19}{60} = \frac{1}{60}$$

$$1.2 \quad \frac{1}{4} + \frac{2}{9} = \frac{9+8}{36} = \frac{17}{36}$$

$$1.3 \quad \frac{1}{3} - \frac{3}{4} + \frac{1}{2} = \frac{4-9+6}{12} = \frac{1}{12}$$

$$1.4 \quad \frac{1}{4} - \frac{6}{7} + \frac{6}{8} = \frac{14-48+42}{56} = \frac{8}{56} = \frac{1}{7}$$

$$1.5 \quad \frac{2}{10} + \frac{2}{3} - \frac{3}{5} = \frac{6+20-18}{30} = \frac{8}{30} = \frac{4}{15}$$

2. Trek die gemengde breuke van mekaar af. [2.2.4.1; 2.2.4.2; 2.2.4.3; 2.2.4.4; 2.2.3.10]

$$2.1 \quad 8\frac{1}{3} - 1\frac{3}{6} = 7\frac{2-3}{6} = 6\frac{6+2-3}{6} = 6\frac{5}{6}$$

$$2.2 \quad 8\frac{3}{4} - 6\frac{5}{6} = 2\frac{9-10}{12} = 1\frac{12+9-10}{12} = 1\frac{11}{12}$$

$$2.3 \quad 7\frac{6}{8} - 3\frac{4}{5} = 4\frac{30-32}{40} = 3\frac{40+30-32}{40} = 3\frac{38}{40} = 3\frac{19}{20}$$

$$2.4 \quad 9\frac{1}{7} - 4\frac{1}{3} = 5\frac{3-7}{21} = 4\frac{21+3-7}{21} = 4\frac{17}{21}$$

$$2.5 \quad 9\frac{2}{7} + 8\frac{9}{11} - 2\frac{8}{11} = 15\frac{22+63-56}{77} = 15\frac{29}{77}$$



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3. Vermenigvuldig die breuke en gee die antwoord as 'n gemengde getal.  
[2.2.5.8; 2.2.5.9; 2.2.5.10]

$$3.1 \quad \frac{4}{7} \text{ of } 9 = \frac{4}{7} \times \frac{9}{1} = \frac{36}{7} = 5\frac{1}{7}$$

$$3.2 \quad \frac{1}{6} \text{ of } 8 = \frac{1}{6} \times \frac{8}{1} = \frac{8}{6} = 1\frac{2}{6} = 1\frac{1}{3}$$

$$3.3 \quad \frac{13}{23} \text{ of } 15 = \frac{13}{23} \times \frac{15}{1} = \frac{195}{23} = 8\frac{11}{23}$$

4. Deling met breuke.

[2.2.6.1; 2.2.6.2]

$$4.1 \quad \frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2} = 1\frac{1}{2}$$

$$4.2 \quad \frac{7}{9} \div \frac{6}{10} = \frac{7}{9} \times \frac{10}{6} = \frac{70}{54} = 1\frac{8}{27}$$

5. Breuke met veranderlikes.

[4.7.3.1; 4.7.3.2; 4.7.3.3]

$$5.1 \quad \frac{8}{n} - \frac{6}{nx} + \frac{5}{x} = \frac{8x - 6 + 5n}{nx}$$

$$5.2 \quad \frac{7}{e^7} - \frac{2}{e^5} = \frac{7 - 2e^2}{e^7}$$

$$5.3 \quad \frac{8e}{m} - \frac{2m}{e} = \frac{8e^2 - 2m^2}{me}$$

$$5.4 \quad \frac{9}{xy^7} - \frac{2}{x^2y^9} - \frac{3}{x^9y^5} = \frac{9x^8y^2 - 2x^7 - 3y^4}{x^9y^9}$$



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### 6. Vermenigvuldig breuke met veranderlikes.

[4.8.2.1]

$$6.1 \quad \frac{5t^4}{6x^8} \times \frac{5x^7}{5t} = \frac{25t^4x^7}{30tx^8} = \frac{5t^3}{6x}$$

$$6.2 \quad \frac{g^4}{p^8z^6} \times \frac{p^4z^7}{g^8} = \frac{z}{g^4p^4}$$

### 7. Deling met breuke en veranderlikes.

[4.8.4.4]

$$5.1 \quad \frac{g}{7} \div \frac{7g}{r} \div \frac{9r}{2g} = \frac{g}{7} \times \frac{r}{7g} \times \frac{2g}{9r} = \frac{2g}{441}$$

$$5.2 \quad \frac{t}{3t} \div \frac{6}{x} \div \frac{9x}{2} = \frac{t}{3t} \times \frac{x}{6} \times \frac{2}{9x} = \frac{1}{81}$$

