$\mathbb{G} = \mathbb{Q}$

1. Bestimme die Definitionsmenge und die Lösungsmenge!

	Aufgabe	Lösung
a)	$\frac{6}{4x} = \frac{2}{8}$	$\mathbb{D} = \mathbb{Q} \setminus \{0\}$ $\mathbb{L} = \{6\}$
b)	$\frac{5}{2+x} = \frac{3}{x}$	
c)	$\frac{8}{1+x} = \frac{4}{x}$	
d)	$\frac{10}{3+x} = \frac{5}{x}$	
e)	$\frac{2}{x-1} = \frac{1}{x+1}$	
f)	$\frac{10}{x-2} = \frac{15}{x+31}$	
g)	$\frac{x}{x^2-1} = \frac{2}{2x-16}$	
h)	$\frac{x}{x^2-9} = \frac{1}{x+6}$	
i)	$\frac{x}{(x-2)^2} = \frac{1}{x+2}$	
k)	$\frac{4x}{(2x+2)^2} = \frac{1}{x-1}$	

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	Aufgabe	Lösung
a)	$\frac{6}{4x} = \frac{2}{8}$	$\mathbb{D} = \mathbb{Q} \setminus \{ 0 \}$ $\mathbb{L} = \{ 6 \}$
b)	$\frac{5}{2+x} = \frac{3}{x}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -2; 0 \}$ $\mathbb{L} = \{ 3 \}$
c)	$\frac{8}{1+x} = \frac{4}{x}$	$\mathbb{D} = \mathbb{Q} \setminus \{ 0; 1 \}$ $\mathbb{L} = \{ 1 \}$
d)	$\frac{10}{3+x} = \frac{5}{x}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -3; 0 \}$ $\mathbb{L} = \{ 3 \}$
e)	$\frac{2}{x-1} = \frac{1}{x+1}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -1; 1 \}$ $\mathbb{L} = \{ -3 \}$
f)	$\frac{10}{x-2} = \frac{15}{x+31}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -31; 2 \}$ $\mathbb{L} = \{ 68 \}$
g)	$\frac{x}{x^2-1} = \frac{2}{2x-16}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -1; 1; 8 \}$ $\mathbb{L} = \{ 1/8 \}$
h)	$\frac{x}{x^2-9} = \frac{1}{x+6}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -3; 3; -6 \}$ $\mathbb{L} = \{ -1,5 \}$
i)	$\frac{x}{(x-2)^2} = \frac{1}{x+2}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -2; 2 \}$ $\mathbb{L} = \{ 2/3 \}$
k)	$\frac{4x}{(2x+2)^2} = \frac{1}{x-1}$	$\mathbb{D} = \mathbb{Q} \setminus \{ -1; 1 \}$ $\mathbb{L} = \{ -1/3 \}$