

Math 04308 – Intermediate Algebra Rational Expressions 3

Simplify each of the following completely.

$$1. \frac{1 + \frac{1}{a}}{1 - \frac{1}{a}}$$

$$2. \frac{\frac{1}{x} - \frac{1}{y}}{\frac{1}{x} + \frac{1}{y}}$$

$$3. \frac{2 + \frac{5}{a} - \frac{3}{a^2}}{2 - \frac{5}{a} + \frac{2}{a^2}}$$

$$4. \frac{1 - \frac{1}{a+1}}{1 + \frac{1}{a-1}}$$

$$5. \frac{\frac{1}{x+3} + \frac{1}{x-3}}{\frac{1}{x+3} - \frac{1}{x-3}}$$

$$6. \frac{\frac{1}{a-1} + 1}{\frac{1}{a-1} - 1}$$

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$$7. \frac{\frac{y+1}{y-1} + \frac{y-1}{y+1}}{\frac{y+1}{y-1} - \frac{y-1}{y+1}}$$



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Answers

1. $\frac{(a+1)}{(a-1)}$	2. $\frac{(y-x)}{(y+x)}$
3. $\frac{(a+3)}{(a-2)}$	4. $\frac{(a-1)}{(a+1)}$
5. $\frac{-x}{3}$	6. $\frac{a}{(2-a)}$
7. $\frac{(y^2+1)}{2y}$	

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