Elementary Algebra Skill

Performing Combined Operations on Rational Expressions

Simplify.

1. $\dfrac{1}{x} - \dfrac{1}{x} \cdot \dfrac{1}{x+1}$

4. $\left(1 - \dfrac{1}{y-1}\right) \div \left(1 - \dfrac{3}{y^2-1}\right)$

2. $\dfrac{a+1}{4a+2}\left(\dfrac{1}{a} + \dfrac{1}{a+1}\right)$

5. $\left(\dfrac{1}{a+b} - \dfrac{1}{a-b}\right) \div \dfrac{4b}{a^2+2ab+b^2}$

3. $\dfrac{1}{m} + \dfrac{m}{m+1} \div \dfrac{m^2}{m^2+2m+1}$

6. $\dfrac{1}{m} \cdot \dfrac{m^2+m}{2} - \dfrac{m+1}{m^2+3m+2} \cdot \dfrac{m^2+2m}{3}$

Answers to Performing Combined Operations on Rational Expressions

1. $\dfrac{1}{x+1}$

2. $\dfrac{1}{2a}$

3. $\dfrac{m+2}{m}$

4. $\dfrac{y-1}{y+2}$

5. $-\dfrac{a+b}{2(a-b)}$

6. $\dfrac{m+3}{6}$