6.4 Adding/Subtracting Rationals with Binomial/Trinomial Denominators-part 1

ex. 1. $\frac{4a}{(a+1)} + \frac{3a}{(a+1)} = \boxed{\frac{7a}{a+1}}$

common denom + −

$a \neq -1$

2. $\frac{4a}{(a+1)(a-2)} + \frac{3a}{(a-2)(a+1)}$

LCD $(a+1)(a-2)$

$= \frac{4a^2 - 8a + 3a^2 + 3a}{(a+1)(a-2)}$

$= \frac{7a^2 - 5a}{(a+1)(a-2)}$

$\frac{a(7a-5)}{(a+1)(a-2)}$

3. $\frac{1}{(m+3)(m-4)} \cdot \frac{(m-4)}{(m-4)} - \frac{5}{(m-4)(m+3)} \cdot \frac{(m+3)}{(m+3)}$

LCD $(m+3)(m-4)$

$= \frac{m-4-5m-15}{(m+3)(m-4)}$

$= \frac{-4m-19}{(m+3)(m-4)}$

4. $\dfrac{2(n+1)}{(n-1)(n+1)} - \dfrac{3(n-1)}{(n+1)(n-1)}$ LCD $(n-1)(n+1)$

$= \dfrac{2n+2-3n+3}{(n-1)(n+1)}$

$= \dfrac{-n+5}{(n-1)(n+1)}$

5. $\dfrac{(p-1)(p+1)}{(p-2)(p+1)} + \dfrac{(p+3)(p-2)}{(p+1)(p-2)}$ LCD $(p-2)(p+1)$

$= p^2+p-p-1+p^2-2p+3p-6$

$= \dfrac{2p^2+p-7}{(p-2)(p+1)}$

6. $\dfrac{(e+3)2}{(e+3)(e-3)} - \dfrac{3e}{e^2-9}$ FACTOR $\dfrac{3e}{(e-3)(e+3)}$ LCD $(e-3)(e+3)$

$= \dfrac{2e+6-3e}{(e+3)(e-3)}$

$$- \frac{ac+b \quad -c}{(e+3)(e-3)}$$

$$= \frac{-e+b}{(e+3)(e-3)}$$

p 564 # 3 a-d
4 b
5, 6, 7 FACTOR! Denom.