Fill in the blank with the missing numerator or denominator to make the equality a true statement.

1. $\dfrac{2x}{x+1} = \dfrac{\quad}{(x+1)(x-3)}$

2. $\dfrac{x+4}{x+2} = \dfrac{x+4}{x+2} \cdot \dfrac{\quad}{\quad} = \dfrac{\quad}{x^2-4}$

3. $\dfrac{x}{2x+3} = \dfrac{x}{2x+3} \cdot \dfrac{\quad}{\quad} = \dfrac{\quad}{2x^2-7x-15}$

Add or Subtract the following fractions. Reduce the fraction to simplest form.

4. $\dfrac{3}{a} + \dfrac{a}{a-2}$

5. $\dfrac{x+1}{x^2-9} + \dfrac{3}{x+3}$

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

7. $\dfrac{x+1}{2x+3} - \dfrac{x+2}{x-2}$

8. $\dfrac{a-3}{a^2-a} - \dfrac{a}{a-1}$

9. $\dfrac{2x}{x^2+3x-10} + \dfrac{x-4}{3x-6}$

10. $\dfrac{2x}{x^2+3x-10} + \dfrac{x-4}{3x-6} - \dfrac{1}{x-5}$

11. Simplify the following complex fraction. Use only Method 1. $\dfrac{1-\dfrac{2}{x-2}}{x-6+\dfrac{10}{x+1}}$

Answers

1. $2x(x-3)$ **2**. $(x+4)(x-2)$ **3**. $x(x-5)$ **4**. $\dfrac{a^2+3a-6}{a\,(a-2)}$ **5**. $\dfrac{4x-8}{(x+3)\,(x-3)}$

6. $\dfrac{3\,x^2+11\,x+7}{(x+3)\,(x-1)\,(x+2)}$ **7**. $\dfrac{-x^2-8\,x-8}{(2\,x+3)\,(x-2)}$ **8**. $\dfrac{-a^2+a-3}{a\,(a-1)}$ **9**. $\dfrac{x^2+7\,x-20}{3\,(x-2)\,(x+5)}$ **10**. $\dfrac{x^3-x^2-64\,x+130}{3\,(x-5)\,(x-2)\,(x+5)}$

11. $\dfrac{x+1}{(x-2)(x-1)}$

Homework: Finish Section 0.7, p. 43: #21-33(odd), 39-45(odd)