Perform each of the following operations and simplify your result.

Section 6.1

1. $\dfrac{x^2 + 2x - 15}{2x^2} \cdot \dfrac{8x}{x^2 - 9}$

Section 6.1

2. $\dfrac{1}{x^2 + 3x} \div \dfrac{x}{4x + 12}$

Section 6.2

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

Section 6.2

4. $\dfrac{4}{x^2 - 7x + 10} - \dfrac{5}{x - 2}$