

Operations with Rational Expressions

Date _____ Period _____

Simplify each expression.

1) $\frac{x^2 + 3x - 54}{x - 2} \cdot \frac{x - 2}{x + 9}$

2) $\frac{42p + 60}{p + 2} \cdot \frac{p + 2}{49p^2 + 70p}$

3) $\frac{9k + 54}{k^2 - 3k - 4} \div \frac{9}{10k^3 - 40k^2}$

4) $\frac{6r - 36}{2} \div \frac{r^2 - 4r - 12}{r^2 - 4}$

5) $\frac{n^2 - n - 2}{n^2 - 4} \div \frac{n + 5}{4n + 20}$

6) $\frac{k^2 - 19k + 90}{k^2 - 14k + 45} \cdot \frac{k^2 - k - 6}{k^2 - 13k + 30}$

7) $\frac{n + 2}{2n^2 + 10n} - \frac{4}{2n}$

8) $\frac{4x}{x + 3} + \frac{6x}{5x + 4}$

9) $\frac{6}{k - 6} - \frac{k - 1}{5k - 3}$

10) $\frac{6n}{n - 1} + \frac{3}{n + 2}$

11) $\frac{x - 4}{2x^2 + 2x - 4} + \frac{4}{3}$

12) $\frac{5}{2p + 3} + \frac{6p}{p + 4}$