Algebra 2 Name_____

Multiplying and Dividing Rational Expressions (version 1)

Period____

Simplify each expression.

1) $\frac{k^2 - 36}{48 - 2k - k^2} \cdot \frac{k + 8}{k - 3}$

2) $\frac{6n - 30}{6} \div \frac{n - 5}{n + 2}$

3) $\frac{16x^2}{4x} \div \frac{x + 7}{4x}$

4) $\frac{5}{r + 4} \div \frac{r + 6}{r^2 + 10r + 24}$

5) $\frac{1}{m - 1} \cdot \frac{8m^2 + 56m}{m^2 + 13m + 42}$

6) $\frac{8}{r^2 + 7r + 6} \div \frac{8}{8r + 8}$

7) $\frac{1}{n + 4} \div \frac{n - 7}{n^2 - 2n - 35}$

8) $\frac{1}{m + 8} \cdot \frac{7m^2 + 56m}{7}$

9) $\frac{6x-6}{5-x} \div \frac{x-1}{x-5}$

10) $\frac{v+3}{v+2} \div \frac{8v^2}{8v^3+16v^2}$

11) $\frac{b-8}{b-4} \div \frac{6b}{6b^2-24b}$

12) $\frac{10b^3+10b^2}{4b} \div \frac{10b^3+10b^2}{2}$

13) $\frac{n-1}{8n^2} \cdot \frac{8n^2}{6n^3+48n^2}$

14) $\frac{x^2-2x+1}{x+1} \div \frac{7x-7}{x+1}$

15) $\frac{28k+4}{2k} \div \frac{14k^2+2k}{2k}$

16) $\frac{2n+2}{n+1} \div \frac{2}{n-6}$

Answers to Multiplying and Dividing Rational Expressions (version 1)

1) $-\frac{(k+6)}{k-3}$

2) $n+2$

3) $\frac{16x^2}{x+7}$

4) 5

5) $\frac{8m}{(m-1)(m+6)}$

6) $\frac{8}{r+6}$

7) $\frac{n+5}{n+4}$

8) m

9) -6

10) $v+3$

11) $b-8$

12) $\frac{1}{2b}$

13) $\frac{n-1}{6n^2(n+8)}$

14) $\frac{x-1}{7}$

15) $\frac{2}{k}$

16) $n-6$