Algebra 2
Name_____ ID: 1

Multiplying and Dividing Rational Expressions

Date_____ Period____

Simplify each expression.

1) $\dfrac{1}{21n + 42} \cdot \dfrac{3n^2 - 12}{n + 8}$

2) $(x + 5) \cdot \dfrac{2x + 4}{2x^2 - 8}$

3) $\dfrac{x + 7}{7x^2 + 13x + 6} \cdot \dfrac{63x + 54}{9}$

4) $\dfrac{2b - 6}{10} \cdot \dfrac{10}{4b^2}$

5) $\dfrac{2r + 7}{r + 7} \cdot \dfrac{63r - 63}{14r^2 + 35r - 49}$

6) $\dfrac{7m^2 + 58m + 63}{8} \cdot \dfrac{1}{7m + 9}$

7) $\dfrac{8m^2}{2m - 5} \cdot \dfrac{20m - 50}{10m - 80}$

8) $\dfrac{b - 7}{2b^2 - 19b + 24}(2b - 3)$

9) $\dfrac{1}{7n^2} \cdot \dfrac{3n^2 + 12n - 15}{3n - 3}$

10) $\dfrac{8x - 48}{8} \cdot \dfrac{1}{x - 4}$

11) $\dfrac{9p-36}{p^2+6p-40} \div \dfrac{1}{p+10}$

12) $\dfrac{2n^3+10n^2}{n+3} \div \dfrac{4n}{n+3}$

13) $\dfrac{6k+18}{6} \div \dfrac{k-10}{k-1}$

14) $\dfrac{x-1}{10x-10} \div \dfrac{1}{x-6}$

15) $\dfrac{1}{a+2} \div \dfrac{a+5}{a^2+13a+40}$

16) $\dfrac{n+2}{n^2+8n+12} \div \dfrac{n+6}{5n+30}$

17) $\dfrac{1}{x+4} \div \dfrac{x+4}{x^2+10x+24}$

18) $\dfrac{k+1}{k^2+10k+9} \div \dfrac{1}{k+9}$

19) $\dfrac{10}{35k-49} \div \dfrac{6}{30k-42}$

20) $\dfrac{p+2}{2p^3+4p^2} \div \dfrac{1}{p-9}$