

Multiplying & Dividing Rational Expressions

Date _____ Period _____

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Multiply each and state the excluded values.

1) $\frac{1}{x-4} \cdot \frac{-x^2 + 9x - 20}{x+2}$

2) $\frac{7}{b^2 + 5b + 4} \cdot \frac{b^2 + 8b + 7}{b+7}$

3) $\frac{9r^2 + 18r}{r+2} \cdot \frac{1}{r-2}$

4) $\frac{8n}{4n+4} \cdot \frac{4n+4}{10}$

5) $\frac{7a^2 - 28a}{a-4} \cdot \frac{1}{5a^2}$

6) $\frac{1}{x-5} \cdot \frac{6x-30}{6}$

7) $\frac{1}{v-4} \cdot \frac{v^2 - 7v + 12}{v+3}$

8) $\frac{n-2}{n^2 - 13n + 40}(n-5)$

9) $\frac{k-4}{27k^2 + 27k}(3k+3)$

10) $\frac{50x^3 + 10x^2}{50x+10} \cdot \frac{5}{10x^2}$

11) $\frac{1}{x+8} \cdot \frac{18x^2 - 12x}{3x-2}$

12) $\frac{5n+2}{45n^2 + 18n}(n-1)$

Divide each and state the excluded values.

13) $\frac{m-4}{3m^2 + 24m} \div \frac{m-4}{m-6}$

14) $\frac{n^2 - 9n - 10}{n+1} \div \frac{n+3}{n+10}$

15) $\frac{p-7}{8} \div \frac{p+5}{8p+8}$

16) $\frac{4}{20x-12} \div \frac{1}{20x^2 - 12x}$

17) $(n-6) \div \frac{n^2 - 9n + 18}{3}$

18) $\frac{1}{7b+35} \div \frac{3b}{b^2 + 11b + 30}$

19) $\frac{9r+90}{4} \div \frac{9r+90}{4r^2}$

20) $\frac{x+7}{x+6} \div \frac{6x-60}{x-10}$

21) $\frac{1}{8-5x} \div \frac{5x^2}{15x^2 - 24x}$

22) $\frac{6a^3 + 2a^2}{a+3} \div (3a+1)$

23) $\frac{7v+5}{7} \div \frac{14v^2 + 45v + 25}{4v^3 + 10v^2}$

24) $\frac{3n^2 - 27n - 30}{10n} \div \frac{24n+24}{10n}$

Multiply or divide each and state the excluded values.

25) $\frac{3x^2 + 6x}{6x^2 - 3x} \div \frac{x+1}{2x-1}$

26) $\frac{8k^3 - 16k^2}{k-5} \div \frac{40k^3 + 16k^2}{5k+2}$

27) $\frac{15p+30}{p+2} \div \frac{15p+30}{p+5}$

28) $\frac{50n}{2n^2 + 18n + 28}(2n+4)$