Pre Calc Name_____ ID: 1

Rational Review

Date_____ Period____

Simplify each and state the excluded values.

1) $\frac{4m^2 + 8m}{m + 2}$

2) $\frac{28b^2}{8b^2 + 28b}$

3) $\frac{10x^2 + 20x}{50x}$

4) $\frac{n^2 - 6n + 5}{n - 1}$

Simplify each expression.

5) $\frac{4}{4m} \cdot \frac{3m - 3}{3}$

6) $\frac{2p^2 + 8p}{p^2 + 9p + 20} \div \frac{p - 4}{p + 5}$

7) $\frac{n-4}{6n^3-30n^2} \div \frac{1}{n-5}$

8) $\frac{p^2+8p+16}{2p^2} \cdot \frac{2p^2}{3}$

9) $\frac{a-5b}{8a} + \frac{a-4b}{8a}$

10) $\frac{2x}{12y^2} + \frac{3x+3y}{12y^2}$

11) $\frac{x+6}{x+2} + \frac{6x}{8x}$

12) $\frac{4}{n+6} - \frac{5}{8}$

13) $\dfrac{\frac{5}{4}+\frac{4}{9}}{\frac{9}{4}}$

14) $\dfrac{\frac{9}{25}}{\frac{3}{2}-\frac{1}{3}}$

15) $\dfrac{4}{\frac{1}{5}+\frac{1}{2}}$

16) $\dfrac{\frac{3}{4}-\frac{1}{3}}{4}$

17) $\dfrac{\frac{a^2}{a+5}-\frac{a}{a+5}}{36}$

18) $\dfrac{x^2}{\frac{3x-1}{9}+\frac{9x-3}{x}}$

19) $\dfrac{\dfrac{4}{25} + \dfrac{2a}{25}}{5}$

20) $\dfrac{u + 5}{\dfrac{u^2}{36} - \dfrac{u}{u + 5}}$

21) $\dfrac{\dfrac{x^2}{x - 2} - \dfrac{x}{3}}{\dfrac{6}{x - 2} - \dfrac{6}{x^2}}$

22) $\dfrac{\dfrac{25}{4} - \dfrac{m}{m - 3}}{\dfrac{m}{m - 3} + \dfrac{4}{m}}$

23) $\dfrac{\dfrac{x^2}{x - 5} + \dfrac{x - 5}{x^2}}{\dfrac{x}{4} - \dfrac{9}{x - 5}}$

24) $\dfrac{\dfrac{1}{2x} + \dfrac{1}{x}}{\dfrac{x^2}{8} - \dfrac{x^2}{16}}$

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Simplify each and state the excluded values.

1) $\frac{4m^2 + 8m}{m + 2}$

$4m$; $\{-2\}$

2) $\frac{28b^2}{8b^2 + 28b}$

$\frac{7b}{2b + 7}$; $\left\{0, -\frac{7}{2}\right\}$

3) $\frac{10x^2 + 20x}{50x}$

$\frac{x + 2}{5}$; $\{0\}$

4) $\frac{n^2 - 6n + 5}{n - 1}$

$n - 5$; $\{1\}$

Simplify each expression.

5) $\frac{4}{4m} \cdot \frac{3m - 3}{3}$

$\frac{m - 1}{m}$

6) $\frac{2p^2 + 8p}{p^2 + 9p + 20} \div \frac{p - 4}{p + 5}$

$\frac{2p}{p - 4}$

7) $\dfrac{n-4}{6n^3-30n^2} \div \dfrac{1}{n-5}$

$\dfrac{n-4}{6n^2}$

8) $\dfrac{p^2+8p+16}{2p^2} \cdot \dfrac{2p^2}{3}$

$\dfrac{(p+4)^2}{3}$

9) $\dfrac{a-5b}{8a} + \dfrac{a-4b}{8a}$

$\dfrac{2a-9b}{8a}$

10) $\dfrac{2x}{12y^2} + \dfrac{3x+3y}{12y^2}$

$\dfrac{5x+3y}{12y^2}$

11) $\dfrac{x+6}{x+2} + \dfrac{6x}{8x}$

$\dfrac{7x+30}{4(x+2)}$

12) $\dfrac{4}{n+6} - \dfrac{5}{8}$

$\dfrac{2-5n}{8(n+6)}$

13) $\dfrac{\frac{5}{4}+\frac{4}{9}}{\frac{9}{4}}$

$\frac{61}{81}$

14) $\dfrac{\frac{9}{25}}{\frac{3}{2}-\frac{1}{3}}$

$\frac{54}{175}$

15) $\dfrac{4}{\frac{1}{5}+\frac{1}{2}}$

$\frac{40}{7}$

16) $\dfrac{\frac{3}{4}-\frac{1}{3}}{4}$

$\frac{5}{48}$

17) $\dfrac{\frac{a^2}{a+5}-\frac{a}{a+5}}{36}$

$\frac{a^2-a}{36a+180}$

18) $\dfrac{x^2}{\frac{3x-1}{9}+\frac{9x-3}{x}}$

$\frac{9x^3}{3x^2+80x-27}$

19) $\dfrac{\dfrac{4}{25} + \dfrac{2a}{25}}{5}$

$\dfrac{4 + 2a}{125}$

20) $\dfrac{u + 5}{\dfrac{u^2}{36} - \dfrac{u}{u + 5}}$

$\dfrac{36u^2 + 360u + 900}{u^3 + 5u^2 - 36u}$

21) $\dfrac{\dfrac{x^2}{x - 2} - \dfrac{x}{3}}{\dfrac{6}{x - 2} - \dfrac{6}{x^2}}$

$\dfrac{x^4 + x^3}{9x^2 - 9x + 18}$

22) $\dfrac{\dfrac{25}{4} - \dfrac{m}{m - 3}}{\dfrac{m}{m - 3} + \dfrac{4}{m}}$

$\dfrac{21m^2 - 75m}{4m^2 + 16m - 48}$

23) $\dfrac{\dfrac{x^2}{x - 5} + \dfrac{x - 5}{x^2}}{\dfrac{x}{4} - \dfrac{9}{x - 5}}$

$\dfrac{4x^4 + 4x^2 - 40x + 100}{x^4 - 5x^3 - 36x^2}$

24) $\dfrac{\dfrac{1}{2x} + \dfrac{1}{x}}{\dfrac{x^2}{8} - \dfrac{x^2}{16}}$

$\dfrac{24}{x^3}$