

Test Review Worksheet - Rational Expressions

Date _____ Period _____

State the excluded values for each rational expression.

1) $\frac{x + 6}{x^2 + 8x + 12}$

2) $\frac{18x - 15}{4x^3}$

3) $\frac{8x^3}{20x^2 + 24x}$

4) $\frac{20x + 90}{70}$

Simplify each expression.

5) $\frac{18p}{27p^2}$

6) $\frac{20x}{35x + 65}$

7) $\frac{42n^2 + 48n}{36n^2}$

8) $\frac{m^2 - 6m - 27}{m^2 - 12m + 27}$

9) $\frac{m^2 + m - 2}{m^2 + 12m + 20}$

10) $\frac{x^3 + 15x^2 + 56x}{x^2 - x - 56}$

$$11) \frac{12n^2(5n+1)}{28} \cdot \frac{4n+6}{4n(5n+1)^3}$$

$$12) \frac{7b(b+10)}{14b^2} \cdot \frac{9-5b}{35(5b-9)}$$

$$13) \frac{7b+6}{70b+60} \div \frac{1}{b+8}$$

$$14) \frac{6}{7r^2-18r-9} \div \frac{3r}{21r^2+9r}$$

$$15) \frac{1}{n+10} \cdot \frac{3n^2+9n+6}{3n+3}$$

$$16) \frac{20n^3+4n^2}{50n^2+10n} \div \frac{4n^2}{2n^2}$$

$$17) \frac{27n-45}{-9n^2+27n-20} \cdot \frac{30n^3-40n^2}{9n-72}$$

$$18) \frac{14a^3-28a^2}{7a^2-36a-36} \div \frac{6a-12}{21a+18}$$

$$19) \frac{x+3y}{25x^3} + \frac{4x-2y}{25x^3}$$

$$20) \frac{5p}{3p} - \frac{p+3}{3p-12}$$

$$21) \frac{6}{x-4} - \frac{6x}{x-6}$$

$$22) \frac{2}{a+1} + \frac{4a}{a-3}$$

$$23) \frac{x+2}{3x^2+7x-20} - \frac{x+1}{9x^2-25}$$

$$24) \frac{5a}{2a^2+5a-3} + \frac{2}{2a^2-11a+5}$$

$$25) \frac{\frac{4}{m}}{\frac{16}{m} - \frac{m}{4}}$$

$$26) \frac{\frac{m-1}{m^2} - \frac{2}{m^2}}{m}$$

$$27) \frac{\frac{10}{a^2 - 4}}{\frac{6a}{a+2} - \frac{4}{a-2}}$$

$$28) \frac{3m}{\frac{m+5}{m^2} - \frac{3}{m+5}}$$

$$29) \frac{2x^2 - 5xy - 3y^2}{x^2 - 9y^2}$$

$$30) \frac{3ac - 18ad - 2bc + 12bd}{-36a^3 + 24a^2b} \cdot \frac{48a^5b^2}{c^2 - 36d^2}$$