

RR 9 - Rational Expressions

Date _____ Algebra: _____

1) List the two types of rational expressions and give an example of each kind:

1. _____

2. _____

2) Explain what it means for an expression to be undefined:

3) How do you find the values of the variable that make an expression undefined?

4) When adding or subtracting rational expressions what must you have?

5) What should you do when multiplying rational expressions?

6) What should you do when dividing rational expressions?

Simplify each and state the excluded values.

$$7) \frac{24m^6}{28m^5}$$

$$8) \frac{x+3}{7x+21}$$

$$9) \frac{63k^2 + 9k}{81k^2}$$

$$10) \frac{r^2 - 2r - 3}{r^2 + 7r + 6}$$

$$11) \frac{v^3 - v^2 - 6v}{v^2 + 5v + 6}$$

$$12) \frac{x^2 - 64}{8x^4 + 72x^3 + 64x^2}$$

$$13) \frac{72n^4}{64n^2}$$

$$14) \frac{r+10}{10r+100}$$

$$15) \frac{3m^2+30m}{m+10}$$

$$16) \frac{15r^2}{25r^2+35r}$$

$$17) \frac{n^2+8n+16}{n+4}$$

$$18) \frac{x+9}{4x+36}$$

Simplify each expression.

$$19) \frac{v+3}{v^2+2v-3} + \frac{v+3}{v^2+2v-3}$$

$$20) \frac{2x}{2} + \frac{2x}{2x^2}$$

$$21) \frac{2}{b-3} - \frac{2}{b+2}$$

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

$$23) \frac{2x^4}{8} \cdot \frac{4x}{4}$$

$$24) \frac{(n+10)(n-6)}{(n-8)(n-6)} \cdot \frac{n-8}{n-9}$$

$$25) \frac{a^2+2a-35}{a+4} \cdot \frac{a+4}{a-7}$$

$$26) \frac{4}{5} \div \frac{7k^2}{10}$$