

Rational Expressions Practice

Date _____ Period _____

Simplify each and state the restrictions.

1) $\frac{x+7}{4x+28}$

2) $\frac{k-10}{k^2-4k-60}$

3) $\frac{35x-10}{35x+5}$

4) $\frac{12v^2-60v}{12v^2-36v}$

Simplify each expression.

5) $\frac{3x(x-9)}{(x-9)(-x+6)} \cdot \frac{x-6}{x+1}$

6) $\frac{2(m+7)}{m+10} \cdot \frac{7}{7(m+7)}$

7) $\frac{1}{n+8} \cdot \frac{n^2+n-20}{4-n}$

8) $\frac{m+5}{12m-24} \cdot \frac{18m-36}{m+5}$

$$9) \frac{(x+8)(x+1)}{9x(x-2)} \div \frac{x+1}{x-2}$$

$$10) \frac{6(p+8)}{p-9} \div \frac{6(p+8)}{10}$$

$$11) \frac{7n^2 - 42n}{n^2 - 7n + 6} \div \frac{1}{n-1}$$

$$12) \frac{k-7}{k^2-4} \div \frac{1}{k-2}$$

$$13) \frac{3v}{3v+6} + \frac{v+5}{v-3}$$

$$14) \frac{2x}{x+1} + \frac{5}{x-4}$$

$$15) \frac{5n}{n+1} - \frac{6n}{n+6}$$

$$16) \frac{6m}{2m+3} - \frac{2m}{m+5}$$

Answers to Rational Expressions Practice

$$1) \frac{1}{4}; \{-7\}$$

$$5) -\frac{3x}{x+1}$$

$$9) \frac{x+8}{9x}$$

$$13) \frac{2v^2+4v+10}{(v-3)(v+2)}$$

$$2) \frac{1}{k+6}; \{10, -6\}$$

$$6) \frac{2}{m+10}$$

$$10) \frac{10}{p-9}$$

$$14) \frac{2x^2-3x+5}{(x-4)(x+1)}$$

$$3) \frac{7x-2}{7x+1}; \left\{-\frac{1}{7}\right\}$$

$$7) \frac{-n-5}{n+8}$$

$$11) 7n$$

$$15) \frac{-n^2+24n}{(n+6)(n+1)}$$

$$4) \frac{v-5}{v-3}; \{0, 3\}$$

$$8) \frac{3}{2}$$

$$12) \frac{k-7}{k+2}$$

$$16) \frac{2m^2+24m}{(m+5)(2m+3)}$$