

## Review Rational Expressions

Simplify each expression.

Look for common denomin. by finding least common multiple

1)  $\frac{5a}{6} - \frac{4}{5a}$



2)  $\frac{4}{2uv} - \frac{6v}{6u}$

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

4)  $\frac{x-6}{2x^2+2x} + \frac{5}{3x}$

5)  $\frac{-5n^2+50n-45}{5n-5} \cdot \frac{1}{5n}$

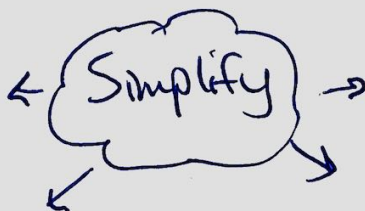


6)  $\frac{6n^3+14n^2}{8n^2} \cdot \frac{8n^2}{6n+14}$

7)  $\frac{8}{2r+8} \cdot \frac{2r^2+24r+64}{8}$

8)  $\frac{56k-24}{7} \cdot \frac{6k^2}{7k-3}$

9)  $\frac{v-8}{5v^2-30v-80}$



10)  $\frac{45k+63}{45k}$

11)  $\frac{2n^2-7n+6}{3n^2-12n+12}$

12)  $\frac{35x^2+21x}{49x^2-42x}$

## Review Rational Expressions

$$1. \frac{5a \cdot 5a}{6 \cdot 5a} - \frac{4 \cdot 6}{5a \cdot 6} = \frac{25a^2}{30a} - \frac{24}{30a} = \boxed{\frac{25a^2 - 24}{30a}}$$

$$2. \frac{4 \cdot 3}{2uv \cdot 3} - \frac{6v \cdot v}{6u \cdot v} = \frac{12}{6uv} - \frac{6v^2}{6uv} = \frac{12 - 6v^2}{6uv}$$

$$= \frac{6(2 - v^2)}{6uv} = \boxed{\frac{2 - v^2}{uv}}$$

$$3. \frac{m+4}{3m^2-6m} - \frac{2m \cdot m(m-2)}{3 \cdot m(m-2)} = \frac{m+4}{3m(m-2)} - \frac{2m^2(m-2)}{3m(m-2)}$$

$3m(m-2) \rightarrow$

$$= \frac{m+4 - 2m^3 - 4m^2}{3m(m-2)} = \boxed{\frac{-2m^3 - 4m^2 + m + 4}{3m(m-2)}}$$

$$4. \frac{x-6 \cdot 3}{2x^2+2x \cdot 3} + \frac{5 \cdot 2(x+1)}{3x \cdot 2(x+1)} = \frac{3(x-6)}{6x(x+1)} + \frac{10(x+1)}{6x(x+1)}$$

$2x(x+1) \rightarrow$

$$= \frac{3x-18}{6x(x+1)} + \frac{10x+10}{6x(x+1)} = \boxed{\frac{13x-8}{6x(x+1)}}$$

$$5. \frac{-5n^2+50n-45}{5n-5} \cdot \frac{1}{5n} = \frac{-5(n^2-10n+9)}{5(n-1)} \cdot \frac{1}{5n}$$

$$= \frac{\cancel{5}(n-1)(n-9)}{\cancel{5}(n-1)} \cdot \frac{1}{5n} = \frac{-(n-9)}{5n} = \boxed{\frac{-n+9}{5n}}$$

$$6. \frac{6n^3 + 14n^2}{\cancel{8n^2}} \cdot \frac{\cancel{8n^2}}{6n+14} = \frac{\cancel{2}n^2(\cancel{3n+7})}{\cancel{2}(3n+7)} = \boxed{n^2}$$

$$7. \frac{\cancel{8}}{2r+8} \cdot \frac{2r^2+24r+64}{\cancel{8}} = \frac{2(r^2+12r+32)}{2(r+4)}$$

$$= \frac{\cancel{2}(r+4)(r+8)}{\cancel{2}(r+4)} = \boxed{r+8}$$

$$8. \frac{56k-24}{7} \cdot \frac{6k^2}{7k-3} = \frac{8(\cancel{7k-3})}{7} \cdot \frac{6k^2}{\cancel{7k-3}} = \boxed{\frac{48k^2}{7}}$$

$$9. \frac{v-8}{5v^2-30v-80} = \frac{v-8}{5(v^2-6v-16)} = \frac{\cancel{v-8}}{5(\cancel{v-8})(v+2)} = \boxed{\frac{1}{5v+10}}$$

$$10. \frac{45k+63}{45k} = \frac{\cancel{9}(5k+7)}{\cancel{5}45k} = \boxed{\frac{5k+7}{5k}}$$

$$11. \frac{2n^2-7n+6}{3n^2-12n+12} = \frac{(2n-3)(n-2)}{3(n^2-4n+4)} = \frac{(2n-3)(\cancel{n-2})}{3(n-2)(\cancel{n-2})}$$

$$= \boxed{\frac{2n-3}{3(n-2)}}$$

$$12. \frac{35x^2+21x}{49x^2-42x} = \frac{\cancel{7x}(5x+3)}{\cancel{7x}(7x-6)} = \boxed{\frac{5x+3}{7x-6}}$$