

$$1. \frac{5a \cdot 5a}{6 \cdot 5a} - \frac{4 \cdot 6}{5a \cdot 6}$$

$$\frac{25a^2}{30a} - \frac{24}{30a}$$

$$\boxed{\frac{25a^2 - 24}{30a}}$$

$$2. \frac{4 \cdot 3}{2uv \cdot 3} - \frac{6v \cdot v}{6uv \cdot v}$$

$$\frac{12}{6uv} - \frac{6v^2}{6uv}$$

$$\frac{12 - 6v^2}{6uv}$$

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

$$\boxed{\frac{2 - v^2}{uv}}$$

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

$$\frac{m+4}{3m(m-2)} - \frac{2m \cdot m(m-2)}{3 \cdot m(m-2)}$$

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

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

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

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

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

$$\frac{x-6 \cdot 3}{2x(x+1) \cdot 3} + \frac{5 \cdot 2(x+1)}{3x \cdot 2(x+1)}$$

$$\frac{3x-18}{6x(x+1)} + \frac{10(x+1)}{6x(x+1)}$$

$$\frac{3x-18}{6x(x+1)} + \frac{10x+10}{6x(x+1)}$$

$$\boxed{\frac{13x-8}{6x(x+1)}}$$

$$\begin{aligned} & -5(n-9)(n-1) \\ & -5(n^2-10n+9) \end{aligned}$$

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

$$\frac{-(n-9)}{5n}$$

$$\boxed{\frac{-n+9}{5n}}$$

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

$$\boxed{n^2}$$

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

$$\boxed{r+8}$$

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

$$\boxed{\frac{48k^2}{7}}$$

$$9. \frac{\cancel{v-8}}{\cancel{5v^2-30v-80} \cdot \cancel{(5v+10)} \cdot \cancel{(v-8)}}$$

$$\boxed{\frac{1}{5v+10}}$$

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

$$\boxed{\frac{5k+7}{5k}}$$

$$(2n-3)(n-2)$$

$$\begin{array}{l} 11. \quad \cancel{2n^2 - 7n + 6} \\ \quad \quad \cancel{3n^2 - 12n + 12} \\ \quad \quad \cancel{3(n^2 - 4n + 4)} \\ \quad \quad 3(n-2)(n-2) \end{array}$$

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

$$\boxed{\frac{2n-3}{3n-6}}$$

$$\begin{array}{l} 12. \quad \cancel{7x(5x+3)} \\ \quad \quad \cancel{35x^2 + 21x} \\ \quad \quad \cancel{49x^2 - 42x} \\ \quad \quad 7x(7x-6) \end{array}$$

$$\boxed{\frac{5x+3}{7x-6}}$$