MATH MONKS

Simplifying Complex Fractions Worksheet

Simplify the given fractions.

① $\dfrac{5-\frac{2}{5}}{6+\frac{1}{3}} =$	⑦ $\dfrac{x+\frac{a}{c}}{x+\frac{b}{d}} =$
② $\dfrac{2}{\frac{3}{2}-\frac{4}{3}} =$	⑧ $\dfrac{a^2+\frac{a}{3}}{4+\frac{x}{5}} =$
③ $\dfrac{1}{2-\frac{1}{3}} =$	⑨ $\dfrac{3+\frac{1}{4}}{\frac{2}{3}} =$
④ $\dfrac{x+\frac{1}{y}}{x-\frac{1}{y}} =$	⑩ $\dfrac{1\frac{1}{2}+2\frac{2}{3}}{1\frac{1}{2}-2\frac{2}{3}} =$
⑤ $\dfrac{1-\frac{2}{x}}{x+\frac{4}{9x}} =$	⑪ $\dfrac{5-\frac{3}{4}}{\frac{5}{6}} =$
⑥ $\dfrac{1}{1-\frac{1}{x-1}} =$	⑫ $\dfrac{x-\frac{x}{y}}{x-\frac{x^2}{y^2}} =$

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Answers

① $\dfrac{5-\frac{2}{5}}{6+\frac{1}{3}} = \dfrac{69}{95}$	⑦ $\dfrac{x+\frac{a}{c}}{x+\frac{b}{d}} = \dfrac{d(xc+a)}{c(xd+b)}$
② $\dfrac{2}{\frac{3}{2}-\frac{4}{3}} = 12$	⑧ $\dfrac{a^2+\frac{a}{3}}{4+\frac{x}{5}} = \dfrac{5a(3a+1)}{3(20+x)}$
③ $\dfrac{1}{2-\frac{1}{3}} = \dfrac{3}{5}$	⑨ $\dfrac{3+\frac{1}{4}}{\frac{2}{3}} = \dfrac{39}{8}$
④ $\dfrac{x+\frac{1}{y}}{x-\frac{1}{y}} = \dfrac{xy+1}{xy-1}$	⑩ $\dfrac{1\frac{1}{2}+2\frac{2}{3}}{1\frac{1}{2}-2\frac{2}{3}} = -\dfrac{25}{7}$
⑤ $\dfrac{1-\frac{2}{x}}{x+\frac{4}{9x}} = \dfrac{9x-18}{9x^2+4}$	⑪ $\dfrac{5-\frac{3}{4}}{\frac{5}{6}} = \dfrac{51}{10}$
⑥ $\dfrac{1}{1-\frac{1}{x-1}} = \dfrac{x-1}{x-2}$	⑫ $\dfrac{x-\frac{x}{y}}{x-\frac{x^2}{y^2}} = \dfrac{y(y-1)}{y-x}$