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① $\frac{7x}{13} + \frac{2x}{13}$

$= \boxed{\frac{9x}{13}}$

③ $\frac{8x}{15} + \frac{x}{15}$

$= \frac{9x}{15}$

$= \boxed{\frac{3x}{5}}$

⑤ $\frac{x-3}{12} + \frac{5x+21}{12}$

$= \frac{6x+18}{12}$

$= \frac{6(x+3)}{12}$

$= \boxed{\frac{x+3}{2}}$

⑦ $\frac{4}{x} + \frac{2}{x}$

$= \boxed{\frac{6}{x}}$

⑨ $\frac{8}{9x} + \frac{13}{9x}$

$= \frac{21}{9x}$

$= \boxed{\frac{7}{3x}}$

⑪ $\frac{5}{x+3} + \frac{4}{x+3}$

$= \boxed{\frac{9}{x+3}}$

⑬ $\frac{x}{x-3} + \frac{4x+5}{x-3}$

$= \boxed{\frac{5x+5}{x-3}}$

⑮ $\frac{4x+1}{6x+5} + \frac{8x+9}{6x+5}$

$= \frac{12x+10}{6x+5}$

$= \frac{2(6x+5)}{(6x+5)}$

$= \boxed{2}$

⑰ $\frac{y^2+7y}{y^2-5y} + \frac{y^2-4y}{y^2-5y}$

$= \frac{2y^2+3y}{y^2-5y}$

$= \frac{y(2y+3)}{y(y-5)}$

$= \boxed{\frac{2y+3}{y-5}}$

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(19) $\frac{4y-1}{5y^2} + \frac{3y+1}{5y^2}$

$= \frac{7y}{5y^2}$

$= \boxed{\frac{7}{5y}}$

(21) $\frac{x^2-2}{x^2+x-2} + \frac{2x-x^2}{x^2+x-2}$

$= \frac{2x-2}{x^2+x-2}$

$= \frac{2(x-1)}{(x-1)(x+2)}$

$= \boxed{\frac{2}{x+2}}$

(23) $\frac{x^2-4x}{x^2-x-6} + \frac{4x-4}{x^2-x-6}$

$= \frac{x^2-4}{x^2-x-6}$

$= \frac{(x-2)(x+2)}{(x-3)(x+2)}$

$= \frac{x-2}{x-3}$

(25) $\frac{3x}{5x-4} - \frac{4}{5x-4}$

$= \boxed{\frac{3x-4}{5x-4}}$

(27) $\frac{4x}{4x-3} - \frac{3}{4x-3}$

$= \frac{4x-3}{4x-3}$

$= \boxed{1}$

(29) $\frac{14y}{7y+2} - \frac{7y-2}{7y+2}$

$= \frac{14y-7y+2}{7y+2}$

$= \frac{7y+2}{7y+2}$

$= 1$

(31) $\frac{3x+1}{4x-2} - \frac{x+1}{4x-2}$

$= \frac{3x+1-x-1}{4x-2}$

$= \frac{2x}{2(2x-1)}$

$= \boxed{\frac{x}{2x-1}}$

(33) $\frac{3y^2-1}{3y^3} - \frac{6y^2-1}{3y^3}$

$= \frac{3y^2-1-6y^2+1}{3y^3}$

$= \frac{-3y^2}{3y^3}$

$= \boxed{\frac{-1}{y}}$

(35) $\frac{4y^2+5}{9y^2-64} - \frac{y^2-y+29}{9y^2-64}$

$= \frac{4y^2+5-y^2+y-29}{9y^2-64}$

$= \frac{3y^2+y-24}{(3y-8)(3y+8)}$

$= \frac{(3y-8)(y+3)}{(3y-8)(3y+8)}$

$= \boxed{\frac{y+3}{3y+8}}$

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(37) $\dfrac{6y^2+y}{2y^2-9y+9} - \dfrac{2y+9}{2y^2-9y+9} - \dfrac{4y-3}{2y^2-9y+9}$

$= \dfrac{6y^2+y-2y-9-4y+3}{2y^2-9y+9}$

$= \dfrac{6y^2-5y-6}{(2y-3)(y-3)}$

$= \dfrac{(2y-3)(3y+2)}{(2y-3)(y-3)}$

$= \boxed{\dfrac{3y+2}{y-3}}$

(39) $\dfrac{4}{x-3} + \dfrac{2}{3-x}$

$= \dfrac{4}{x-3} + \dfrac{2}{-1(x-3)}$

$= \dfrac{4}{x-3} + \dfrac{-2}{x-3}$

$= \boxed{\dfrac{2}{x-3}}$

(41) $\dfrac{6x+7}{x-6} + \dfrac{3x}{6-x}$

$= \dfrac{6x+7}{x-6} + \dfrac{3x}{-1(x-6)}$

$= \dfrac{6x+7}{x-6} + \dfrac{-3x}{x-6}$

$= \boxed{\dfrac{3x+7}{x-6}}$

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(43) $\frac{5x-2}{3x-4} + \frac{2x-3}{4-3x}$

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

$= \frac{5x-2}{3x-4} - \frac{2x-3}{3x-4}$

$= \frac{5x-2-2x+3}{3x-4}$

$= \boxed{\frac{3x+1}{3x-4}}$

(45) $\frac{x^2}{x-2} + \frac{4}{2-x}$

$= \frac{x^2}{x-2} + \frac{4}{-1(x-2)}$

$= \frac{x^2-4}{x-2}$

$= \frac{(x-2)(x+2)}{(x-2)}$

$= \boxed{x+2}$

(47) $\frac{y-3}{y^2-25} + \frac{y-3}{25-y^2}$

$= \frac{y-3}{y^2-25} + \frac{y-3}{-1(y^2-25)}$

$= \frac{y-3-y+3}{y^2-25}$

$= \boxed{0}$

(49) $\frac{6}{x-1} - \frac{5}{1-x}$

$= \frac{6}{x-1} - \frac{5}{-1(x-1)}$

$= \frac{6+5}{x-1}$

$= \boxed{\frac{11}{x-1}}$

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(51) $\frac{10}{x+3} - \frac{2}{-x-3}$

$= \frac{10}{x+3} - \frac{2}{-1(x+3)}$

$= \boxed{\frac{8}{x+3}}$

(53) $\frac{y}{y-1} - \frac{1}{1-y}$

$= \frac{y}{y-1} + \frac{1}{-(1-y)}$

$= \frac{y}{y-1} + \frac{1}{y-1}$

$= \boxed{\frac{y+1}{y-1}}$

(55) $\frac{3-x}{x-7} - \frac{2x-5}{7-x}$

$= \frac{3-x}{x-7} - \frac{2x-5}{-1(x-7)}$

$= \frac{3-x}{x-7} + \frac{2x-5}{x-7}$

$= \boxed{\frac{x-2}{x-7}}$

(57) $\frac{x-2}{x^2-25} - \frac{x-2}{25-x^2}$

$= \frac{x-2}{x^2-25} - \frac{x-2}{-1(x^2-25)}$

$= \frac{x-2}{x^2-25} + \frac{x-2}{x^2-25}$

$= \boxed{\frac{2x-4}{x^2-25}}$

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(59) $\frac{x}{x-y} + \frac{y}{y-x}$

$= \frac{x}{x-y} + \frac{y}{-1(x-y)}$

$= \frac{x-y}{x-y}$

$= 1$

(61) $\frac{2x}{x^2-y^2} + \frac{2y}{y^2-x^2}$

$= \frac{2x}{x^2-y^2} + \frac{2y}{-1(x^2-y^2)}$

$= \frac{2x-2y}{x^2-y^2}$

$= \frac{2(x-y)}{(x-y)(x+y)}$

$= \boxed{\frac{2}{x+y}}$

(63) $\frac{x^2-2}{x^2+6x-7} + \frac{19-4x}{7-6x-x^2}$

$= \frac{x^2-2}{x^2+6x-7} + \frac{19-4x}{-1(x^2+6x-7)}$

$= \frac{x^2-2}{x^2+6x-7} - \frac{19-4x}{x^2+6x-7}$

$= \frac{x^2-2-19+4x}{x^2+6x-7}$

$= \frac{x^2+4x-21}{(x-1)(x+7)}$

$= \frac{(x-4)(x+7)}{(x-1)(x+7)}$

$= \boxed{\frac{x-4}{x-1}}$

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(65) $\frac{6b^2 - 10b}{16b^2 - 48b + 27} + \frac{7b^2 - 20b}{16b^2 - 48b + 27} - \frac{6b - 3b^2}{16b^2 - 48b + 27}$

$= \frac{6b^2 - 10b + 7b^2 - 20b - 6b + 3b^2}{16b^2 - 48b + 27}$

$= \frac{16b^2 - 36b}{16b^2 - 48b + 27}$

$= \frac{4b(4b - 9)}{(4b - 9)(4b - 3)}$

$= \boxed{\frac{4b}{4b - 3}}$