

A.APR.D.7: Addition and Subtraction of Rationals 3

1 Express $\frac{1}{2x} - \frac{3}{14x}$ as a single fraction in lowest terms.

2 Express in simplest form: $\frac{3x}{2x-6} + \frac{9}{6-2x}$

3 Simplify: $\frac{a-1}{1-a} + \frac{1-b}{b-1}$

4 Express in simplest form: $\frac{1}{x} + \frac{1}{x+3}$

5 Express in simplest form: $\frac{3a+1}{a^2-1} - \frac{1}{a+1}$

6 Express in simplest form: $\frac{3y+15}{25-y^2} + \frac{2}{y-5}$

7 Simplify: $\frac{m}{nm-n^2} - \frac{1}{m-n} - \frac{1}{n}$

8 Simplify: $\frac{a+2}{a^2-5a+6} + \frac{a+2}{a^2-7a+12} + \frac{1}{a^2-6a+8}$

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Answer Section

1 ANS:

$$\frac{2}{7x}$$

REF: 068708siii

2 ANS:

$$\frac{3}{2} \cdot \frac{3x}{2x-6} + \frac{9}{6-2x} = \frac{3x}{2x-6} + \frac{-9}{2x-6} = \frac{3x-9}{2x-6} = \frac{3(x-3)}{2(x-3)} = \frac{3}{2}$$

REF: 060929b

3 ANS:

$$-2$$

REF: 119403al

4 ANS:

$$\frac{2x+3}{x(x+3)} \cdot \frac{(1 \times (x+3)) + (x \times 1)}{x(x+3)} = \frac{x+3+x}{x(x+3)} = \frac{2x+3}{x(x+3)}$$

REF: 060524b

5 ANS:

$$\frac{2}{a-1}$$

REF: 018439siii

6 ANS:

$$\frac{1}{5-y}$$

REF: 069740siii

7 ANS:

$$0$$

REF: 019103al

8 ANS:

$$\frac{2a+5}{(a-2)(a-4)}$$

REF: 090501al