

Name: .....

Date: ..... Score: .....

## Adding and Subtracting Rational Functions

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Evaluate each function for the specified value

1  $f(x) = \frac{5x - 4}{12 + x} + \frac{x + 3}{12 + x}$ , for  $x = 2$

2  $f(x) = \frac{-x - 7}{x^2 - 9} - \frac{x}{x^2 - 9}$ , for  $x = 2$

3  $f(x) = \frac{8x}{x - 5} - \frac{2x + 1}{x - 5}$ , for  $x = 3$

4  $f(x) = \frac{x^2 - 4}{8x} + \frac{x^2 + 1}{8x}$ , for  $x = 5$

5  $f(x) = \frac{6}{4x + 16} - \frac{x - 2}{4x + 16}$ , for  $x = 10$

6  $f(x) = \frac{3}{x + 6} + \frac{7}{x + 6}$ , for  $x = 4$

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### Answers

1  $f(x) = \frac{5x-4}{12+x} + \frac{x+3}{12+x}$ , for  $x=2$

2  $f(x) = \frac{-x-7}{x^2-9} - \frac{x}{x^2-9}$ , for  $x=2$

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$$\frac{6x-1}{12+x}; \frac{11}{14}$$

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$$-\frac{(2x+7)}{x^2-9}; \frac{11}{5}$$

3  $f(x) = \frac{8x}{x-5} - \frac{2x+1}{x-5}$ , for  $x=3$

4  $f(x) = \frac{x^2-4}{8x} + \frac{x^2+1}{8x}$ , for  $x=5$

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$$\frac{6x-1}{x-5}; -\frac{17}{2}$$

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$$\frac{2x^2-3}{8x}; \frac{47}{40}$$

5  $f(x) = \frac{6}{4x+16} - \frac{x-2}{4x+16}$ , for  $x=10$

6  $f(x) = \frac{3}{x+6} + \frac{7}{x+6}$ , for  $x=4$

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$$\frac{-x+8}{4x+16}; -\frac{1}{28}$$

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$$\frac{10}{x+6}; 1$$