Precalculus Practice A.APR.D.7: Addition and Subtraction of Rationals 1

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1. Simplify $\frac{4}{5x}-\frac{3}{5x}$. [A] $\frac{1}{5x}$ [B] $-\frac{1}{5x}$ [C] $-\frac{1}{10x}$ [D] $\frac{7}{10x}$ [E] $\frac{1}{10x}$

Subtract:

2. $\frac{3x+2}{x^2-25}-\frac{2x-3}{x^2-25}$ [A] $-\frac{1}{x-5}$ [B] $\frac{1}{x-5}$ [C] $\frac{1}{x+5}$ [D] $\frac{x-1}{x^2-25}$

3. $\frac{5x+3}{x^2-64}-\frac{4x-5}{x^2-64}$ [A] $\frac{1}{x-8}$ [B] $\frac{x-2}{x^2-64}$ [C] $\frac{1}{x+8}$ [D] $-\frac{1}{x-8}$

4. $\frac{-4x+2}{x^2-81}-\frac{-3x-7}{x^2-81}$ [A] $\frac{-x-5}{x^2-81}$ [B] $-\frac{1}{x-9}$ [C] $-\frac{1}{x+9}$ [D] $\frac{1}{x+9}$

Simplify:

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

6. $\frac{-3x+5}{-48x}+\frac{-3x-5}{-48x}$

7. $\frac{-x+3}{8x}+\frac{-x-3}{8x}$

8. $\frac{8z}{4z-4}-\frac{8}{4z-4}$

9. $\frac{9z}{3z-4}-\frac{12}{3z-4}$

10. $\frac{6z}{3z-4}-\frac{8}{3z-4}$

Add:

11. $\frac{5}{x} + \frac{2}{7x^2}$

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

13. $\frac{6}{x} + \frac{7}{4x^2}$

14. The fifth and sixth terms of 10 data items, arranged in order from least to greatest, are $\frac{x+5}{x}$ and $\frac{3x+1}{2x}$. What is the median of the data?

15. Compare the quantity in Column A with the quantity in Column B.

Column A	Column B
$\frac{(x+2)}{x}+\frac{1}{3}$	$\frac{(4x+6)}{3x}$

[A] The quantity in Column A is greater.
[B] The quantity in Column B is greater.
[C] The two quantities are equal.
[D] The relationship cannot be determined on the basis of the information supplied.

16. Compare the quantities in Column A and Column B.

Column A	Column B
the numerator when $\frac{3}{2x}+\frac{4}{6x^2}$ is simplified	the numerator when $\frac{3}{2x}-\frac{4}{6x^2}$ is simplified

[A] The quantity in Column A is greater.
[B] The quantity in Column B is greater.
[C] The quantities are equal.
[D] The relationship cannot be determined from the information given.

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[1] A

[2] B

[3] A

[4] C

[5] $\frac{1}{3}$

[6] $\frac{1}{8}$

[7] $-\frac{1}{4}$

[8] 2

[9] 3

[10] 2

[11] $\frac{35x+2}{7x^2}$

[12] $\frac{20x+3}{5x^2}$

[13] $\frac{24x+7}{4x^2}$

[14] $\frac{5x+11}{4x}$

[15] C

[16] A