

## Section 14-5: Adding or Subtracting Algebraic Fractions

1. 060412a

What is the least common denominator of  $\frac{1}{2}$ ,  $\frac{2}{7x}$ , and  $\frac{5}{x}$ ?

- [A]  $2x$     [B]  $9x$     [C]  $14x$     [D]  $14x^2$

2. 089911a, P.I. A.A.17

Which expression is equivalent to  $\frac{a}{x} + \frac{b}{2x}$ ?

- [A]  $\frac{2a+b}{2x}$                       [B]  $\frac{a+b}{2x}$   
[C]  $\frac{a+b}{3x}$                       [D]  $\frac{2a+b}{x}$

3. 080207a, P.I. A.A.17

The sum of  $\frac{3}{x} + \frac{2}{5}$ ,  $x \neq 0$ , is

- [A]  $\frac{2x+15}{5x}$                       [B]  $\frac{1}{x}$   
[C]  $\frac{2x+15}{x+5}$                       [D]  $\frac{5}{x+5}$

4. 010423a, P.I. A.A.17

What is the sum of  $\frac{2}{x}$  and  $\frac{x}{2}$ ?

- [A]  $\frac{4+x}{2x}$                       [B]  $1$   
[C]  $\frac{4+x^2}{2x}$                       [D]  $\frac{2+x}{2x}$

5. 060727a, P.I. A.A.17

What is the sum of  $\frac{3}{7n}$  and  $\frac{7}{3n}$ ?

- [A]  $\frac{58}{21n}$     [B]  $\frac{42}{21n}$     [C]  $\frac{1}{n}$     [D]  $\frac{10}{21n}$

6. 010016a, P.I. A.A.17

The expression  $\frac{y}{x} - \frac{1}{2}$  is equivalent to

- [A]  $\frac{1-y}{2x}$  [B]  $\frac{2y-x}{2x}$   
[C]  $\frac{x-2y}{2x}$  [D]  $\frac{y-1}{x-2}$

7. 069906a, P.I. A.A.16

Expressed as a single fraction, what is

$$\frac{1}{x+1} + \frac{1}{x}, x \neq 0, -1?$$

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

8. 060524b, P.I. A2.A.16

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

9. 010315b, P.I. A2.A.16

What is the sum of  $\frac{3}{x-3}$  and  $\frac{x}{3-x}$ ?

- [A]  $\frac{x+3}{x-3}$  [B] 0 [C] 1 [D] -1

10. 080505b, P.I. A2.A.16

What is the sum of  $(y-5) + \frac{3}{y+2}$ ?

- [A]  $\frac{y^2-7}{y+2}$  [B]  $y-5$   
[C]  $\frac{y-2}{y+2}$  [D]  $\frac{y^2-3y-7}{y+2}$

11. 080733b, P.I. A2.A.16

Express in simplest form:

$$\frac{2x}{x^2-4} \div \frac{4}{x^2-4x+4} + \frac{12}{x^2-4} \cdot \frac{2-x}{3}$$

[1] C

[2] A

[3] A

[4] C

[5] A

[6] B

[7] D

[2]  $\frac{2x+3}{x(x+3)}$  or  $\frac{2x+3}{x^2+3x}$ , and appropriate

work is shown.

[1] Appropriate work is shown, but one computational error is made or the answer is not simplified completely.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1]  $\frac{2x+3}{x(x+3)}$  or  $\frac{2x+3}{x^2+3x}$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[8] incorrect procedure.

[9] D

[10] D

[6]  $\frac{x-4}{2}$ , and appropriate work is shown.

[5] Appropriate work is shown, but one computational error is made.

[4] Appropriate work is shown, but two or more computational errors are made.

or [4] Appropriate work is shown, but  $-1$  is not factored out.

[3] Appropriate work is shown, but one conceptual error is made, such as not following the correct order of operations.

[2] Appropriate work is shown, but one conceptual error and one computational error are made.

[1] Appropriate work is shown, but one conceptual error and two or more computational errors are made.

or [1] Appropriate work is shown, but two conceptual errors are made.

or [1]  $\frac{x-4}{2}$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[11] incorrect procedure.