

Name: \_\_\_\_\_

Unit 7: Ratios Expressions Practice Test

Determine ONLY the least common denominator for each expression.

#1-6  
RATING: \_\_\_\_\_

1.  $\frac{2n}{n^2+4n-5} + \frac{5n}{n^2-1}$   
(n+5)

LCD:  $(n+5)(n-1)(n+1)$

2.  $\frac{x-3}{2} - \frac{5}{2x+10}$

LCD:  $2(x+5)$

3.  $\frac{3x}{x-1} + \frac{6x-9}{x+1}$

LCD:  $(x-1)(x+1)$

4.  $\frac{7n}{(n+2)^2(n+5)} + \frac{6n}{(n+3)(n+5)}$

LCD:  $(n+2)^2(n+5)(n+3)$

5.  $\frac{x}{2x^2-x-3} + \frac{10}{x+1}$   
 $2x^2 - 3x + 2x - 3$   
 $x(2x-3) + 1(2x-3)$

LCD:  $(x+1)(2x-3)$

6.  $\frac{12x}{x^2+5x+6} + \frac{7}{(x+3)(x+6)}$   
 $(x+3)(x+2)$

LCD:  $(x+3)(x+2)(x+6)$

Simplify.

7.  $\frac{7n^2+21n}{n+3}$

RATING: \_\_\_\_\_

$\frac{7n(n+3)}{n+3}$

$7n$

8.  $\frac{5x^2-10x}{3x^2-x-10} \cdot \frac{16x^3+80x^2}{6x+30}$

RATING: \_\_\_\_\_

$\frac{5x(x-2)}{(x-2)(3x+5)} \cdot \frac{16x(x+5)}{6(x+5)}$   
 $\frac{40x}{3}$

Perform the indicated operation.

9.  $\frac{x}{x^2-16} + \frac{10}{x-4}$

RATING: \_\_\_\_\_

$\frac{x + 10x + 40}{(x+4)(x-4)}$   
 $\frac{11x+40}{(x+4)(x-4)}$

10.  $\frac{7}{5x} + \frac{4}{2x}$

RATING: \_\_\_\_\_

$\frac{14+20}{10x} = \frac{34}{10x} = \frac{17}{5x}$

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

RATING: \_\_\_\_\_

$$x^2 + 2x = -6x - 15$$

$$x^2 + 8x + 15 = 0$$

$$(x+5)(x+3)$$

$$x = -5, x = -3$$

12. 
$$\frac{x-5}{x-6} - \frac{1}{x^2-10x+24} = \frac{5}{x^2-10x+24}$$

RATING: \_\_\_\_\_

$$x^2 - 5x - 4x + 20 - 1 = 5$$

$$x^2 - 9x + 14 = 0$$

$$(x-7)(x-2) = 0$$

$$x = 7$$
$$x = 2$$

13. 
$$\frac{x+5}{x-1} + \frac{x}{x-2} = \frac{2x^2}{x^2-3x+2}$$

RATING: \_\_\_\_\_

$$x^2 + 5x - 2x - 10 + x^2 - x = 2x^2$$

$$2x^2 + 2x - 10 = 2x^2$$

$$2x = 10$$

$$x = 5$$