

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Adding Rational Expressions	1, 19	10, 11, 14	13
Subtracting Rational Expressions	2, 20	3, 12, 15	16, 17, 18
Determining the LCD	4	5, 11, 12, 14, 15	6, 13, 16, 17, 18
Making Equivalent Expressions	7	8	9, 17
Application Problems		10	17
Multiplying/Dividing Rational Expressions	20	22	
Restricting the domain		23	

Add or Subtract as indicated. Simplify the result, if possible. Show all work to earn full credit.

1. $\frac{6}{7} + \frac{x+1}{7}$

2. $\frac{8y}{y-2} - \frac{16}{y-2}$

3. $\frac{3x-1}{x^2+5x-6} - \frac{2x-7}{x^2+5x-6}$

Find the LCD for each list of rational expressions.

4. $\frac{17x}{4y^5}$ & $\frac{2}{8y}$

5. $\frac{9x^2}{7x-14}$ & $\frac{6x}{(x-2)^2}$

6. $\frac{4}{x^2+4x+3}$ & $\frac{4x-2}{x^2+10x+21}$

Rewrite each rational expression as an equivalent rational expression with the given denominator.

7. $\frac{3}{9y^5} = \frac{?}{72y^9}$

8. $\frac{4x+1}{3x+6} = \frac{?}{3y(x+2)}$

9. $\frac{6m-5}{3x^2-9} = \frac{?}{12x^2-36}$

Application Problems. Show all work for full credit.

10. A square has a side length of $\frac{5}{x-2}$ meters. Express its perimeter as a rational expression.

Perform each indicated operation. Simplify, if possible. Show all work for full credit. State the LCD & the domain in interval notation.

11. $\frac{15}{7a} + \frac{8}{6a}$

12. $\frac{8}{x+4} - \frac{3}{3x+12}$

13. $\frac{5}{a-7} + \frac{5}{7-a}$

14. $\frac{6y}{y+5} + 1$

15. $\frac{-y+1}{y} - \frac{2y-5}{3y}$

16. $\frac{x}{x^2-4} - \frac{5}{x^2-4x+4}$

Real-World Application

17. A board of length $\frac{3}{x+4}$ inches was cut into two pieces. If one piece is $\frac{1}{x-4}$ inches, express the length of the other piece as a rational expression.

18. Two angles are said to be complementary if the sum of their measures is 90° . If one angle measures $\frac{40}{x}$ degrees, find the measure of its complement.

SPIRAL REVIEW

19. $\frac{5x}{7} + \frac{9x}{7}$

20. $\frac{5x}{7} \cdot \frac{9x}{7}$

21. $\frac{5x}{7} - \frac{9x}{7}$

22. $\frac{5x}{7} \div \frac{9x}{7}$

23. Restrict the domain for $\frac{11}{4a-20}$.

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

