

Name:

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples
ADDING & SUBTRACTING Rational Expressions (*with LIKE BASES)	To add or subtract rational expression with a common denominator:
	① Combine the numerators and keep the common denominator.
	② Factor and simplify the remaining expression.
	Example: $\frac{x^2 + 5x}{4x^2 + 5x - 6} - \frac{3x}{4x^2 + 5x - 6}$
YOU TRY!	Find each sum or difference. Write each answer in simplest form.
	1. $\frac{n}{8} + \frac{3n}{8}$
	2. $\frac{1}{3x} + \frac{5}{3x}$
	3. $\frac{7u}{16} - \frac{5u}{16}$
	4. $\frac{7p^2}{4p^3} - \frac{p^2}{4p^3}$
5. $\frac{-8y^2}{3y} + \frac{11y^2}{3y}$	
6. $\frac{7ab}{10a^2b} - \frac{3ab}{10a^2b}$	
7. $\frac{5x}{x+4} + \frac{20}{x+4}$	
8. $\frac{w+9}{10} + \frac{w+7}{10}$	

$$9. \frac{x-6}{2} - \frac{x-7}{2}$$

$$10. \frac{g+2}{4} + \frac{g-8}{4}$$

$$11. \frac{c^2}{c+2} - \frac{4}{c+2}$$

$$12. \frac{m+7}{8m+16} - \frac{m-1}{8m+16}$$

$$13. \frac{v}{v^2+5v-24} + \frac{8}{v^2+5v-24}$$

$$14. \frac{5k}{k^2+7k+12} + \frac{20}{k^2+7k+12}$$

$$15. \frac{2r^2}{r^2-12r+20} - \frac{4r}{r^2-12r+20}$$

$$16. \frac{4n}{3n^2-n-2} - \frac{n-2}{3n^2-n-2}$$

$$17. \frac{x^2+1}{x^2-4} + \frac{5x}{x^2-4} - \frac{2x+11}{x^2-4}$$

$$18. \frac{4d^2}{6d^3-42d^2} - \frac{28d}{6d^3-42d^2}$$

$$19. \frac{2g^2-g}{4g^2-25} - \frac{15}{4g^2-25}$$

$$20. \frac{5w}{2w^2+w-1} - \frac{3w+1}{2w^2+w-1}$$

Name:

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples
ADDING & SUBTRACTING Rational Expressions (*with UNLIKE BASES)	To add or subtract rational expressions without a common denominator:
	① Find a common denominator!
	② Rewrite the fractions using the common denominator. Adjust each numerator to reflect the change in the denominator.
	③ Add/Subtract the numerators and keep the common denominator.
	④ Simplify (if needed).
	Example 1: $\frac{x}{3} + \frac{x}{2}$
	Example 2: $\frac{a+10}{6} - \frac{2a-1}{30}$
	Example 3: $\frac{k+24}{5k+20} + \frac{k}{k+4}$
	Example 4: $\frac{4r}{r-1} - \frac{28r}{r^2+5r-6}$
YOU TRY!	Find each sum or difference. Write each answer in simplest form.
	1. $\frac{4}{5p} - \frac{7}{15p}$
	2. $\frac{9}{4c} + \frac{3}{2c}$
	3. $\frac{y}{2} - \frac{y}{5} - \frac{y}{6}$
	4. $\frac{9x}{5} - \frac{3x}{4} + \frac{7x}{10}$
5. $\frac{y-2}{3} + \frac{y+1}{6}$	
6. $\frac{5n+9}{12} - \frac{2n+8}{16}$	

$$7. \frac{1}{x-7} + \frac{6}{2x-14}$$

$$8. \frac{6k}{k^2-9} + \frac{k}{k+3}$$

$$9. \frac{w}{w+2} - \frac{8}{w^2-4}$$

$$10. \frac{1}{m-5} + \frac{2m-19}{m^2-m-20}$$

$$11. \frac{g^2+4g}{g^2+6g+8} + \frac{3}{g+2}$$

$$12. \frac{4a}{a^2+6a+5} + \frac{1}{a+1}$$

$$13. \frac{5}{p^2-p-6} + \frac{1}{p+2}$$

$$14. \frac{4}{4z-1} + \frac{8z-15}{4z^2+11z-3}$$

$$15. \frac{r^2+8r-12}{2r^2-5r-3} - \frac{3}{r-3}$$

$$16. \frac{5x}{x+2} - \frac{x}{x-1} + \frac{3}{x^2+x-2}$$