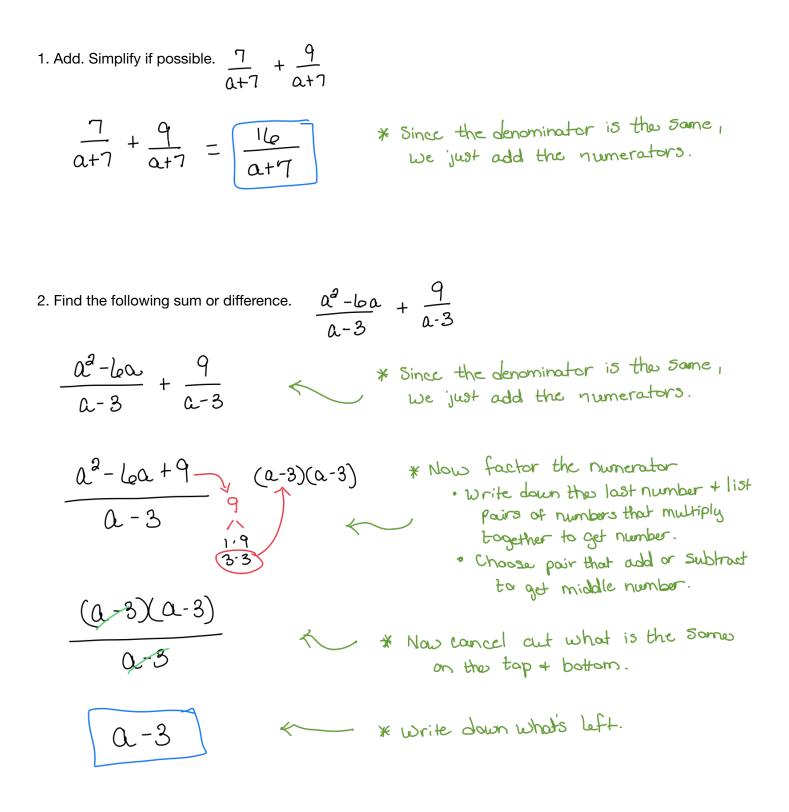
## Intro to College Math: Chapter 7.3 Add/ Subtract Rational Expressions



3. Find the following sum or difference.

 $\frac{a^2}{a-1} - \frac{2a-1}{a-1}$ 

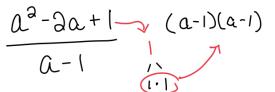
Qª-(2a-1)

Q-1

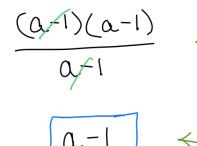
$$\frac{a^2}{a^{-1}} = \frac{2a^{-1}}{a^{-1}}$$

\* Since the denominator is the same, we subtract the numerators.

\* Since there is a minus sign is between them, we distribute the negative to each term following it



a<sup>2</sup>-2a+1- (a-1)(a-1) \* Now factor the numerator



· Write down thes last number + list pairs of numbers that multiply together to get number. · Choose pair that add or subtract

to get middle number.

\* Now cancel cut what is the some on the top + bottom.

\* write down what's left.

4. Find the following sum or difference. $\frac{y+5}{y+6}$ - $\frac{y+5}{y+6}$ - $\frac{y-1}{y+6}$ *	
y+5-(y-1) ***	Since there is a minus sign is between them, use distribute the negative to each term following it
¥+5-19+1 19+6	* Combine like terms on the top
+5+1 y+6	
<u>lo</u> Y+lo	

5. Find the following sum or difference.

$$\frac{\gamma}{\chi_{F3}} + \frac{3}{4}$$

4

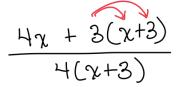
$$\frac{\chi}{\chi+3} + \frac{3}{4}$$
   
  $\chi(\chi+3)$  denominator

$$\frac{4\chi}{4(\chi+3)} + \frac{3(\chi+3)}{4(\chi+3)}$$

\* first we must find a common - denominator. • Write down the 2 denominators

multiplical by each other.

 Then rewrite the problem with the common denominator under each fraction The numerator will be the original numerator multiplied by the part of the common denominator that was not in its original denominator.



Now	since the denominators are the w, combine into one fraction.
Ther	rid of the ().

4x+3x+9	-
4 (x+3)	-

Now combine like terms on the top.



6. Subtract and simplify.

$$\frac{7}{C-1} = \frac{3}{C-4}$$

$$(C-1)(C-4)$$

 $\frac{7}{C-1} - \frac{3}{C-4}$ 

5

$$\frac{7(c-4)}{(c-1)(c-4)} - \frac{3(c-1)}{(c-1)(c-4)}$$

· write down the 2 denominators multiplical by each other.

K. Then rewrite the problem with the Common denominator under each fraction The numerator will be the original numerator multiplied by the part of the Common denominator that was not in its original denominator.

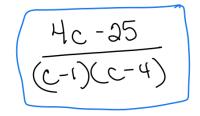
$$7(c-4) - 3(c-1)$$
  
 $(c-1)(c-4)$ 

$$\leftarrow$$

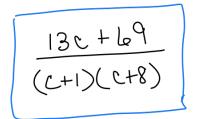
$$\frac{7c-38-3c+3}{(c-1)(c-4)}$$

Now since the denominators are the same, combine into one fraction. Then use the distributive property to get rid of the ().

Now combine like terms on the top.



7. Add and simplify. $\frac{8}{c+1} + \frac{5}{c+8}$ # first we must find a common denominator. $\frac{8}{c+1} + \frac{5}{c+8}$ while down the 2 denominators $\frac{1}{c+1} + \frac{5}{c+8}$ (C+1)(C+8)
$\frac{8(c+8)}{(c+1)(c+8)} + \frac{5(c+1)}{(c+1)(c+8)}$ (C+1)(c+8) K. Then rewrite the problem with the common denominator under each fraction. The numerator will be the original numerator multiplied by the part of the common denominator. The numerator that was not in its original denominator.
8(c+8) + 5(c+1) (c+1)(c+8) Mow since the denominators are the same, combine into one fraction. Then use the distributive property to get rid of the ().
8c+b4+5c+5 (c+1)(c+8) $(c+1)(c+8)$ Now combine like terms on the top.



8. Find the following sum or difference.

$$\frac{2\chi+1}{3\chi-12} - \frac{\chi-2}{\chi-4}$$

 $\frac{2\chi+1}{3\chi-12} - \frac{\chi-2}{\chi-4}$   $3(\chi-4)$ 

 $\frac{2\chi+1}{3(\chi-4)} = \frac{\chi-2}{\chi-4}$ 

\* first factor the denominator that can be factored.

\* Then make a common denominator.
Since they both have an
2-4, we only write it down
3(x-4)

$$\frac{2\chi+1}{3(\chi-4)} - \frac{3(\chi-2)}{3(\chi-4)}$$

K Then rewrite the problem with the common denominator under each fraction The numerator will be the original numerator multiplied by the part of the common denominator that was not in its original denominator.

$$2x+1 - 3(x-2)$$
  
3(x-4)

Now since the denominators are the same, combine into one fraction. Then use the distributive property to get rid of the ().

$$3\chi + 1 - 3\chi + 6$$
  
 $3(\chi - 4)$ 

Now combine like terms on the top.

