Finding Common Denominators and Equivalent Fractions

Find the common denominator.

1/6　and　2/3　　　　　Common Denominator is_____
2/5　and　1/3　　　　　Common Denominator is_____
4/5　and　4/12　　　　Common Denominator is_____
5/8　and　6/7　　　　　Common Denom iator is_____

Change these pairs to equivalent fractions (fractions that are equal) with common denominators.

3/4　and　1/3　　are equivalent to _____ and _____

3/6　and　2/9　　are equivalent to_____ and _____

2/3　and　1/7　　are equivalent to_____ and _____

5/6　and　3/4　　are equivalent to _____ and _____

Adding and Subtracting Rationals

Find the **common denominator** and make **equivalent fractions** then add or subtract the numerators (top numbers) and keep the common denominator the same. Don't forget to **reduce** whenever possible. **Remember your integer rules!!**

eg. $1/2 + 2/3$　　　common denominator is 6.

= 3/6 + 4/6　(add the numerators)
=7/6　　　　　(already reduced but you can change it into a mixed number)

To convert an **improper fraction to a mixed number** divide the bottom into the top and put the remainder over the existing denominator.
eg. 7/6 = 1 1/6

To add or subtract mixed numbers first change them to improper fractions then use the rule above. To convert **mixed numbers to improper**, take the whole number times the denominator and add the numerator and put this answer over the existing denominator.
eg. 11/4 - 2 1/2
=5/4 - 5/2　(now find the common denominator)
=5/4 - 10/4
=5/4 + ⁻10/4
= ⁻5/4 which is the same as ⁻1 1/4

*When a negative fraction is shown, remember that it makes no difference where the negative is placed ie. $\dfrac{^-4}{5} = \dfrac{4}{^-5} = -\dfrac{4}{5}$

You can prove this by dividing each one of the above to find the decimal form of the answer and you will see that you will get a result of $^-0.8$ each time.

Comparing Fractions

How could you find out which fraction is bigger in a series of numbers?

To organize fractions in order of size, either find a common denominator for all of them and then the fraction with the bigger numerator is the biggest number, or, convert them into decimals by dividing the bottom into the top then organize. Make sure to express the answers in their original fraction forms after finding out the correct organization.

Place the following fractions in order from biggest to smallest.
    1/3, 5/6, 9/7, 41/42