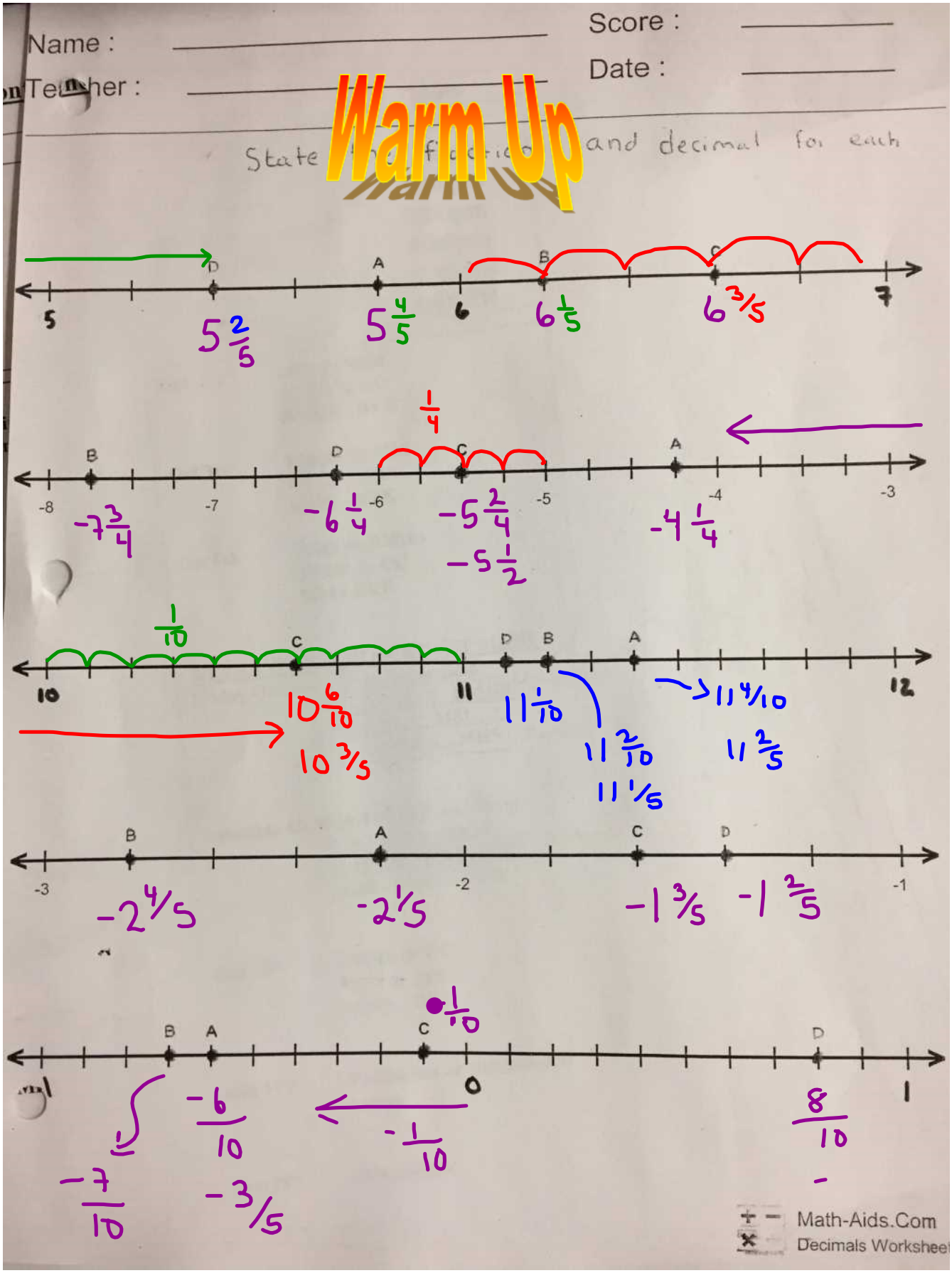
Curriculum Outcome

N1: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.

Student Friendly:
"Subtracting Fractions and Subtracting Decimals"


Name :
Score :
Date :
Teacher :
Warm Up
State the fraction and decimal for each
Math-Aids.Com
Decimals Worksheet

Any Homework Questions?

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11(acegi) (Without calculator)

13, 16, 17, 18, 19(a, c), 20(ac)

Section 3.3

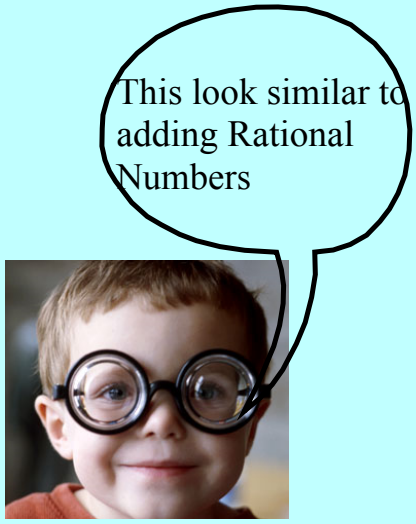
Subtracting Rational Numbers

When subtracting Rational Numbers you must have a ...

Common Denominator

Ex) $\frac{13}{7} - \frac{4}{7} = \frac{9}{7}$

Same Denominators



You try ...

(Remember to write all solution in simplest form)

1) $\frac{21}{2} - \frac{24}{2}$

$= -\frac{3}{2}$

2) $\frac{-25}{13} - \frac{16}{13}$

$= -\frac{41}{13}$

3) $\frac{11}{4} - \frac{5}{4}$

$= \frac{6}{4} = \frac{3}{2}$

Oh, what to do when the denominators are different???

I Know this one!!!!

When denominators are different you have to find a **"common denominator"**

How 

By determining the LCM

Lowest Common Multiple

(of the denominators)

Subtract the following rational numbers

$$\frac{13}{7} - \frac{4}{3}$$

Look at the multiples of each denominator

Find the LCM

7 3

x3 x7

$\frac{39}{21} - \frac{28}{21}$

$\frac{11}{21}$

You try...

1) $\frac{17}{12} - \frac{4}{9}$

×3 ↘ ↙ ×4

$\frac{51}{36} - \frac{16}{36}$

$= \frac{35}{36}$

3) $\frac{-2}{7} - \frac{5}{28}$

×4 ↘ $\frac{-8}{28} - \frac{5}{28}$

$= -\frac{13}{28}$

Subtracting Negative Numbers

$8 - (-2)$ ⟶ We add the opposite: $8 + 2 =$

No difference with rational numbers

$\frac{6}{5} - \left(\frac{-10}{5}\right)$ ⟶ We add the opposite: $\frac{6}{5} + \frac{10}{5} =$

Subtracting Rational Numbers in Mixed Number Form

$3\frac{1}{5} - 2\frac{7}{10}$ Option 1

STEP 1) Write each mixed number as an improper fraction

$\frac{16}{5} - \frac{27}{10}$

STEP 2) Find common denominators and then subtract like before

x2

$= \frac{32}{10} - \frac{27}{10}$

$= \frac{5}{10}$

STEP 3) Reduce all fractions

$= \frac{1}{2}$

Subtracting Rational Numbers in Mixed Number Form

$$3\frac{1}{5} - 2\frac{7}{10}$$

Option 2

STEP 1) Work with you integers first

$3 - 2 = \boxed{1}$

STEP 2) Work with your fraction

$\frac{1}{5} - \frac{7}{10}$

$\frac{2}{10} - \frac{7}{10} = \boxed{-\frac{5}{10}}$

STEP 3) Put step 1 & 2 answers together (must be careful here)

$1 - \frac{5}{10}$

$\frac{10}{10} - \frac{5}{10} = \frac{5}{10} = \boxed{\frac{1}{2}}$

Your Turn

1) $-2\frac{2}{9} - \left(-3\frac{1}{3}\right)$

$\frac{-20}{9} + \left(\frac{+10}{3}\right)$

$\frac{-20}{9} + \frac{+30}{9}$

$\frac{10}{9}$

$= 1\frac{1}{9}$

2) $6\frac{1}{2} - 3\frac{1}{7}$

$\frac{13}{2} - \frac{22}{7}$

$\frac{91}{14} - \frac{44}{14}$

$\frac{47}{14}$

$= 3\frac{5}{14}$

Class/Homework

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