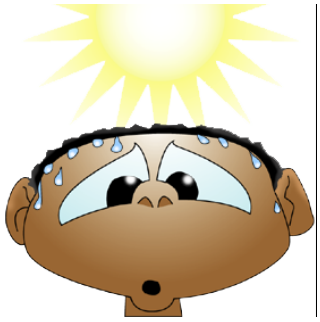
Curriculum Outcome

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

Student Friendly:
“We are going to review adding and subtracting fractions and decimals."

Warm-Up



Evaluate the following expressions:

- $-\frac{4}{3}-\left(-\frac{7}{2}\right)+\frac{6}{5}$

$\frac{-8}{6} + \frac{21}{6} + \frac{6}{5}$

$\frac{13}{6} + \frac{6}{5}$

$\frac{65}{30} + \frac{36}{30}$

$= \frac{101}{30}$

$= 3\frac{11}{30}$

- $23.5 + (-12.61) - 3.2$

$10.89 - 3.2$

7.69

$\overline{3}\,-5+7$

$-2+7$

5

Hints for quiz:

To list or compare decimals, remember to add a zero to the end of your decimal.

Example 3.21$\underline{0}$ 3.22$\underline{0}$

To list or compare fractions, remember use common denominators.

Example $\frac{1}{3}$ $\frac{3}{5}$ (x5, x3) $\frac{5}{15} < \frac{9}{15}$

9 is bigger than 5

Mixed to Improper

$3\frac{1}{6} = \frac{(3 \times 6) + 1}{6} = \frac{19}{6}$

Improper to Mixed

$\frac{36}{5} = (36 \div 5) = 7.? = 7\frac{1}{5}$

(7x5) = 35 + (1) = 36

Subtracting a Negative

-add the opposite

-8 - (-5)

= -8 + 5

= -3

To add and subtract fractions you need common denominators

1) $\frac{-1}{4} + \frac{5}{7}$

$= \frac{-7}{28} + \frac{20}{28}$

$= \frac{13}{28}$

2) $-2\frac{1}{3} - 3\frac{2}{5}$

$= \frac{-7}{3} - \frac{17}{5}$

$= \frac{-35}{15} - \frac{51}{15}$

$= \frac{-86}{15}$

$= -5\frac{11}{15}$

Class/Homework

Page 119 - 120

-0.66 -0.75

9 11, 13 c, d,

Mid-Unit Review

Page: 121

Questions:

2, 3, 4ad, 5b(i, ii, iii), 6, 7,8, 9

3.1

2. Order the following rational numbers from least to greatest. Place each number on a number line to support your answer.

$-\frac{6}{5}$, 1.2, -1.1, $-\frac{1}{4}$, 0.2, $-1\frac{3}{8}$

3. Replace each ☐ with $<$ or $>$.
How could you check your answers?

a) $-\frac{2}{3} \square -\frac{3}{4}$

b) $-\frac{8}{3} \square -\frac{9}{4}$

c) $-2.5 \square 0.5$

d) $-\frac{4}{5} \square -0.9$

4. Identify a rational number between each pair of numbers. Sketch a number line to illustrate each answer.

a) $1.2, 1.4$

b) $-\frac{3}{4}, \frac{5}{8}$

c) $0.4, \frac{1}{3}$

d) $-1.05, -\frac{9}{10}$

3.2

5. a) How can you determine the sign of the sum of two numbers before you add them?

b) Determine the sign of each sum, then check by using a calculator.

i) $2.35 + 3.47$ =

ii) $-5.783 + (-0.247)$ =

iii) $-\frac{2}{3} + \left(-1\frac{1}{8}\right)$ =

iv) $-5.27 + 6.58$ =

v) $-\frac{17}{5} + \frac{4}{9}$ =

vi) $0.085 + (-0.125)$ =

6. Determine each sum.

a) $8.37 + 0.58$ b) $-21.25 + (-36.57)$

=

=

c) $-157.4 + 32.7$ d) $\frac{5}{8} + \left(-\frac{1}{9}\right)$

=

e) $-8\frac{1}{4} + 5\frac{1}{5}$ f) $-\frac{5}{3} + \left(-\frac{23}{7}\right)$

=

=

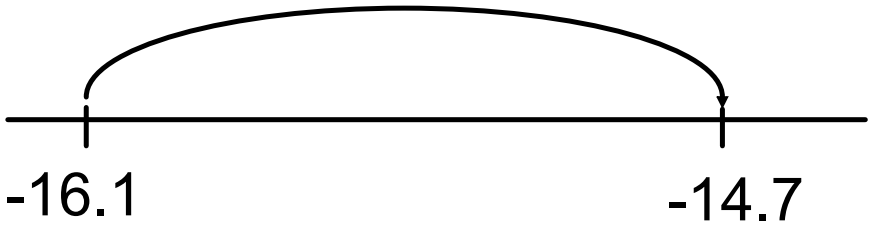
=

3.3

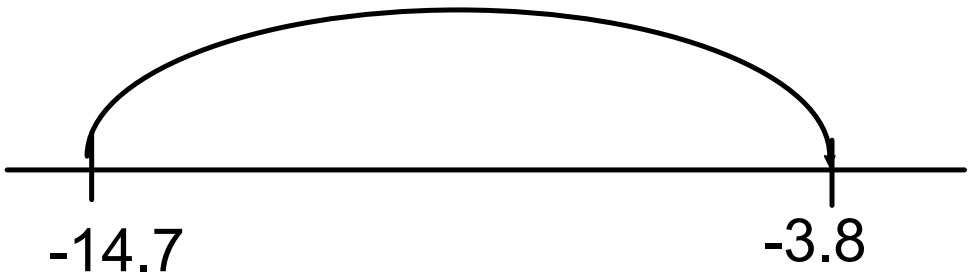
7. The temperature of a freezer changed from $-16.1°C$ to $-14.7°C$.

a) i) By how much did the temperature change?

ii) Is this an increase or a decrease in temperature? Explain how you know.



b) By how much does the temperature need to change again before it is at $-3.8°C$?



8. Determine each difference.

a) $40.25 - 63.10$

b) $-112.2 - (-14.8)$

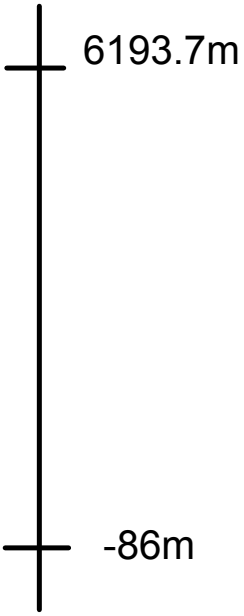
c) $\frac{2}{5} - \frac{9}{10}$

d) $-4\frac{4}{9} - 3\frac{5}{6}$

e) $-1.8 - 4.3$

f) $\frac{23}{8} - \left(-\frac{7}{2}\right)$

9. The lowest point on land in North America is Death Valley at 86 m below sea level. The highest point is the peak of Mt. McKinley at 6193.7 m above sea level. How can you use rational numbers to calculate the distance between these two points?



10. a) How can you determine the sign of the difference of two numbers before you subtract them?

b) Determine the sign of each difference, then check by using a calculator.

i) $62.4 - 53.7$ ii) $-0.54 - 1.98$

=

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iii) $\frac{1}{12} - \frac{9}{10}$ iv) $5\frac{2}{3} - \left(-7\frac{1}{2}\right)$

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