

Mid-Unit Review

Worksheet

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Questions:

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

Quiz Tomorrow!

3.1

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

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

-1.2 1.2 -1.1 -0.25 0.2 -1.375

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

3. Replace each \square with $<$ or $>$.

How could you check your answers?

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

$$\frac{-8}{12} > \frac{-9}{12}$$

$$-0.\bar{6} > -0.75$$

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

$$\frac{-32}{12} < \frac{-27}{12}$$

$$-2.\bar{6} < -2.25$$

c) $-2.5 \square 0.5$

$$-2.5 < 0.5$$

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

$$-0.8 > -0.9$$

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

a) 1.2, 1.4

✓
1.3

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

$-\frac{6}{8}, \frac{5}{8}$

✓
 $-\frac{1}{8}$

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

0.4 0.3 $\bar{3}$

✓

✓

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

-1.05 -0.9

✓
 -1.04

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) $8.37 + 0.58$

$= - 8.95$

b) $-21.25 + (-36.57)$

$= - 57.82$

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

$= - 124.7$

$= \frac{45}{72} + \left(\frac{-8}{72}\right)$

$= \frac{37}{72}$

e) $-8\frac{1}{4} + 5\frac{1}{5}$

$\frac{-33}{4} + \frac{26}{5}$

$= \frac{-165}{20} + \frac{104}{20}$

$= \frac{-61}{20}$

$= -3\frac{1}{20}$

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

$\frac{-35}{21} + \frac{-69}{21}$

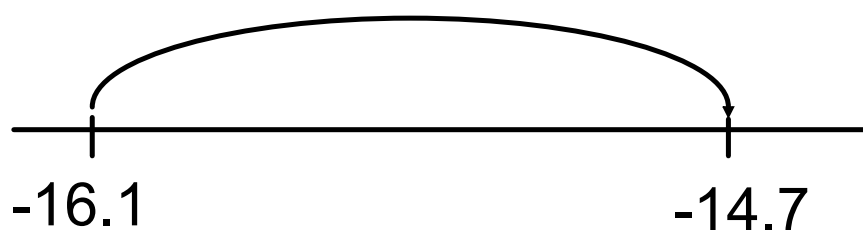
$\frac{-104}{21}$

$= -4\frac{20}{21}$

3.3

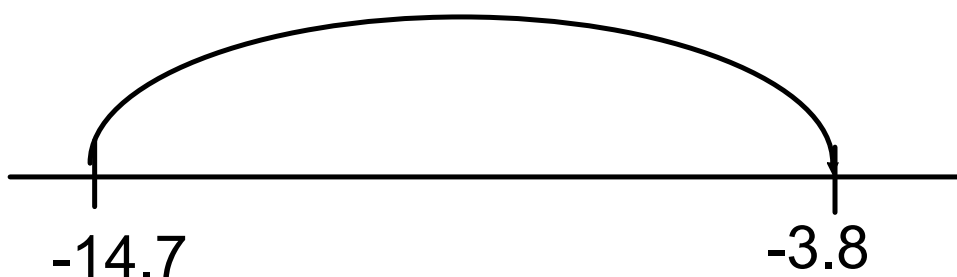
7. The temperature of a freezer changed from -16.1°C to -14.7°C .

- a) i) By how much did the temperature change?
ii) Is this an increase or a decrease in temperature? Explain how you know.



$$-14.7 - (-16.1) = 1.4$$

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



8. Determine each difference.

a) $40.25 - 63.10$

$$= -22.85$$

b) $-112.2 - (-14.8)$

$$= -97.4$$

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

$$= \frac{8}{20} - \frac{18}{20}$$

$$= \frac{-10}{20}$$

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

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

$$= -\frac{40}{9} - \frac{23}{6}$$

$$= \frac{-160}{36} - \frac{138}{36}$$

$$= \frac{-298}{36}$$

$$= -\frac{149}{18}$$

$$= -8\frac{5}{18}$$

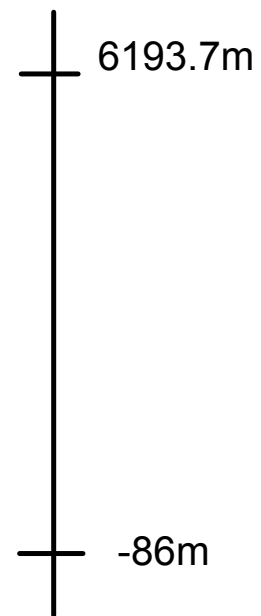
e) $-1.8 - 4.3$

$$= -6.1$$

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?

$$6193.7 \text{ m} - (-86\text{m})$$
$$= 6279.7$$



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) $-0.54 - 1.98$

= +

= -

iii) $\frac{1}{12} - \frac{9}{10}$

= -

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

= +