



Grade 9 Warm Up



Put the following fractions in order from least to greatest.

1)

$$\frac{-11}{15}, \frac{-2}{7}, \frac{-21}{22}, \frac{-1}{5}, \frac{-1}{10}$$

-0.73 (crossed out), -0.28 , -0.954 (underlined), -0.2 (with an eraser icon), -0.1

$$-\frac{21}{22}, -\frac{11}{15}, -\frac{2}{7}, -\frac{1}{5}, -\frac{1}{10}$$



Grade 9 Warm Up



Determine each sum.

$$1) \frac{-5}{6} + \left(\frac{-2}{5} \right) \quad 3) -1 \frac{2}{3} + \left(-3 \frac{1}{5} \right)$$

$$2) \frac{8}{3} + \frac{5}{4}$$

b) On December 17th, the temperature was 2.1°C less than (colder than) that of December 18th. What was the temperature on the 17th?

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

6, 12, 18, 24, (30)
5, 10, 15, 20, 25, (30)

$$\frac{-25}{30} + \frac{-12}{30}$$

$$\boxed{\frac{-37}{30} = -1 \frac{7}{30}}$$

$$2) \quad \frac{8}{3} + \frac{5}{4}$$

$$\frac{32}{12} + \frac{15}{12}$$

$$\frac{47}{12} = 3 \frac{11}{12}$$

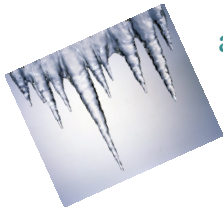
$$3) -1\frac{2}{3} + \left(-3\frac{1}{5}\right)$$

$$-\frac{5}{3} + \left(-\frac{16}{5}\right)$$

$$-\frac{25}{15} + \left(-\frac{48}{15}\right)$$

$$-\frac{73}{15} = -4\frac{13}{15}$$

4) On December 18th, the temperature in Miramichi was -21.6°C .
By noon the next day, the temperature increased by 3.7°C .



a) What was the temperature at noon on December 19th?

$$-21.6 + 3.7 = -17.9^{\circ}\text{C}$$



b) On December 17th, the temperature was 2.1°C less than (colder than) that of December 18th. What was the temperature on the 17th?

$$-21.6 - 2.1 = -23.7^{\circ}\text{C}$$

$$-21.6 + (-2.1)$$

Any Homework Questions?



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11(acgi), (Without calculator)
13, 16, 17, 18, 19(a, c), 20(ac)

#17. a) 45.50 (earn)
 22.50 25
 -15.77 (spent)
 -33.10
 b) $45.50 + 22.25 + (-15.77) + (-33.10)$
 c) $\$18.88$

18. $(-545.50) + (-978.44) + 2115.70$
 $+ (-888.56) + 2570.40 + (-2540)$
 $= -266.04$

20) $-\frac{3}{4} + \square = \frac{7}{8}$
 $-\frac{6}{8} + \frac{13}{8} = \frac{7}{8}$

c) $\square + \frac{-5}{2} = 3\frac{1}{8}$
 $\square + \left(\frac{-5}{2}\right) = \frac{25}{8}$
 $\frac{45}{8} + \left(\frac{-20}{8}\right) = \frac{25}{8}$

Section 3.3

Subtracting Rational Numbers

When subtracting Rational Numbers you must have a ...

Common Denominator

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

Same Denominators

This look similar to adding Rational Numbers



Subtracting Fractions

↳ need common denominator!

You try ...

(Remember to write all solution in simplest form)

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

$$\begin{array}{r} -3 \\ \hline 2 \\ -1\frac{1}{2} \end{array}$$

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

$$\begin{array}{r} -41 \\ \hline 13 \\ -3\frac{2}{13} \end{array}$$

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

$$\begin{array}{r} 6 \\ \hline 4 \\ 1\frac{1}{2} \end{array}$$

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



I Know this one!!!!



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



By determining the **LCM**

Lowest **C**ommon **M**ultiple
(of the denominators)

Subtract the following rational numbers



$$\begin{array}{r} \overset{\times 3}{13} \\ \hline 7 \end{array} - \overset{\times 7}{\begin{array}{r} 4 \\ \hline 3 \end{array}} = \overset{\times 3}{\begin{array}{r} 39 \\ \hline 21 \end{array}} - \overset{\times 7}{\begin{array}{r} 28 \\ \hline 21 \end{array}} = \frac{11}{21}$$

Look at the multiples of each denominator

Find the LCM

7

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Class/Homework

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