

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:

"BEDMAS with fractions and decimals"



Section 3.6

Order of Operations with Rational Numbers

Remember from
operations

"BEDMAS"order of



In the order
that
they appear



4.



Warm Up



$$\left(-\frac{1}{2}\right)^2 - \left(-\frac{2}{3}\right) \div \left[\frac{1}{3} + \left(-\frac{1}{4}\right)\right]$$

$$\left(\frac{-1}{2}\right)^2 - \left(-\frac{2}{3}\right) \div \left[\frac{4}{12} + \frac{-3}{12}\right]$$

$$\left(\frac{-1}{2}\right)^2 - \left(-\frac{2}{3}\right) \div \left[\frac{1}{12}\right]$$

$$\left(\frac{-1}{2}\right)^2 - \left(-\frac{2}{3}\right) \times \left(\frac{12}{1}\right)$$

$$\left(\frac{-1}{2}\right)^2 - \left(\frac{-24}{3}\right)$$

reduce

$$\left(\frac{-1}{2}\right)^2 - \left(\frac{-8}{1}\right)$$

$\times 4$

$$\frac{-1}{4} + \frac{32}{4}$$

$$\frac{33}{4}$$

$$\frac{6}{5} \times \left(\frac{1}{4} + \frac{1}{4} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \left(\frac{2}{4} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \left(\frac{1}{2} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \frac{1}{4} - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{20} - \frac{3}{20} \times \frac{5}{2}$$

$$\frac{3}{10} - \frac{15}{40}$$

$$\frac{12}{40} - \frac{15}{40}$$

$$\frac{-3}{40}$$

$$\frac{6}{5} \times \left(\frac{1}{4} + \frac{1}{4} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \left(\frac{2}{4} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \left(\frac{1}{2} \right)^2 - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{5} \times \frac{1}{4} - \frac{3}{20} \div \frac{2}{5}$$

$$\frac{6}{20} - \frac{3}{20} \times \frac{5}{2}$$

$$\frac{3}{10} - \frac{15}{40}$$

$$\frac{12}{40} - \frac{15}{40}$$

$$\frac{-3}{40}$$

On Test

$$\frac{4.5 - 2.3 \div (-0.5)}{(-5.4 + 3.5)^2 - 8.9}$$

Top

$$4.5 - 2.3 \div (-0.5)$$

$$4.5 - (-4.6)$$

$$= 9.1$$

Bottom

$$(-5.4 + 3.5)^2 - 8.9$$

$$(-1.9)^2 - 8.9$$

$$(3.61) - 8.9$$

$$= -5.29$$

$$\frac{\text{Top}}{\text{Bottom}}$$

$$= \frac{9.1}{-5.29}$$

$$= -1.720\dots$$

4.



$$\frac{\left(-\frac{1}{2}\right)^2 - \left(-\frac{2}{3}\right)}{\left[\frac{1}{3} + \left(-\frac{3}{12}\right)\right]}$$

$$\frac{11}{12}$$

$$\frac{1}{12}$$

Top:

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

$$\left(\frac{1}{4}\right) - \left(-\frac{2}{3}\right)$$

$$\frac{3}{12} + \left(\frac{8}{12}\right)$$

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

Bottom

$$\frac{1}{3} + \frac{-3}{12}$$

$$\frac{4}{12} + \frac{-3}{12}$$

$$\frac{1}{12}$$

$$\frac{\text{Top}}{\text{bottom}} = \frac{\frac{11}{12}}{\frac{1}{12}} = \frac{11}{12} \div \frac{1}{12}$$

$$= \frac{11}{12} \times \frac{12}{1}$$

$$= \frac{11}{1}$$

$$= 11$$

Class / Homework

Page 140 & 142

6, 7abd, 8a, 10, 12 ad, 13 ad

Write out the questions and show all work!
(Hint take your time and do one step at a time)