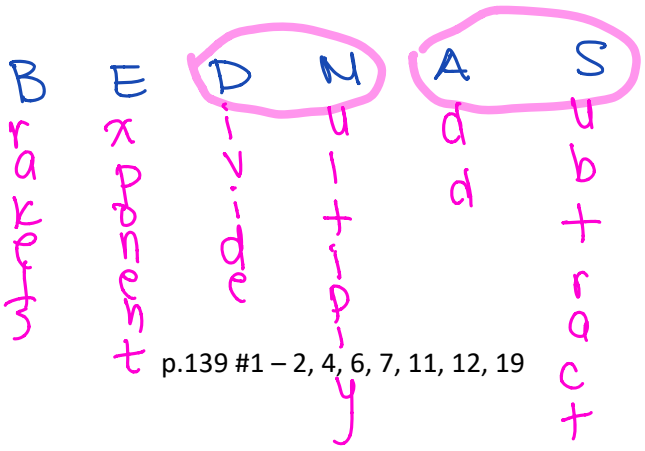
Name: _____ Date: _____

Learning Goal 3.4	I can simplify expressions with rational numbers using order of operations.

Recap Discuss in your groups what you think the most important thing to remember about each operation is

Adding Rational Numbers	**Subtracting Rational Numbers**
- lowest common denominator (any common denominator) - don't add the denominator! - simplify! - if you add a negative, you are really subtracting!	- don't subtract the denominator. - if you are subtracting a negative, you're really adding
Multiplying Rational Numbers	**Dividing Rational Numbers**
- multiply the numerators - multiply the denominators. - simplify! - 2 negatives make a positive. - negative × positive = negative. - we can simplify in the middle. - don't need a common denominator.	- flip the second fraction and multiply

Recall Order of Operations



PEMDAS

BEMDAS

BEDMSA

BEMDSA

Assignment p.139 #1 – 2, 4, 6, 7, 11, 12, 19 Quiz: Next Day!

Example Evaluate the following expressions

For **integer** rational numbers.

a. $(14-8)\times(10+2)+7$

B
E
D
M
A
S

$= 6 \times 12 + 7$

$= 72 + 7$

$= 79$

b. $(7-2+5)\div 4\times 10+9$

B
E
D
M
A
S

$= (5+5)\div 4\times 10+9$

$= 10\div 4\times 10+9$

$= \frac{5}{2}\times\frac{10}{1}+9$

$= 25+9 = 34$

$\frac{10\div 2}{4\div 2}=\frac{5}{2}$

For **decimal** rational numbers.

c. $\Big(\big((9.2+2.8)\div 4.8\big)\times 4.4\Big)\div(1.9\div 3.8)-3.4$

For **fractional** rational numbers.

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

B
E
D
M
A
S

$= \left(-\frac{1}{2}\right)\left(-\frac{1}{2}\right)-\left(-\frac{2}{3}\right)\div\left(\frac{4}{12}-\frac{3}{12}\right)$

$= \left(-\frac{1}{2}\right)\left(-\frac{1}{2}\right)-\left(-\frac{2}{3}\right)\div\left(\frac{1}{12}\right)$

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

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

$= \frac{1}{4}-(-8)$

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

$= \frac{33}{4}$

e. $6\left(\frac{4}{3}\left(1\frac{7}{7}+\frac{1}{7}\right)\right)\div 1\frac{3}{10}$

B
E
D
M
A
S

$= 6\left(\frac{4}{3}\left(\frac{8}{7}\right)\right)\div 1\frac{3}{10}$

$= \frac{6}{1}\left(\frac{32}{21}\right)\div 1\frac{3}{10}$

$= \frac{192}{21}\div 1\frac{3}{10}$

$= \frac{192}{21}\div\frac{13}{10}$

$= \frac{192}{21}\times\frac{10}{13}$

$= \frac{1920}{273}$

$= \frac{640}{91}$

Assignment p.139 #1 – 2, 4, 6, 7, 11, 12, 19 Quiz: Next Day!