Math 8
Date_____

Name_____

5.5 Order of Operations with Fractions

B rackets

E xponents

D ivision
M ultiplication
(left → right)

A ddition
S ubtraction
(left → right)

ex. $2 \div \frac{1}{4} + 3 \times \frac{1}{2}$

$= \frac{2}{1} \times \frac{4}{1} + \frac{3}{1} \times \frac{1}{2}$

$= \frac{8}{1} + \frac{3}{2} = 8\frac{1}{2}$

$= \frac{16}{2} + \frac{3}{2}$

$= \frac{19}{2}$ OR $9\frac{1}{2}$

$8 + 1\frac{1}{2}$

ex. $\frac{1}{3} \times (9 - 2) - \frac{5}{6}$

$= \frac{1}{3} \times \frac{7}{1} - \frac{5}{6}$

$= \frac{7}{3} - \frac{5}{6}$

$= \frac{14}{6} - \frac{5}{6}$

$= \frac{9}{6}$

$= \frac{3}{2}$ OR $1\frac{1}{2}$

$2\frac{1}{3} - \frac{5}{6}$

$2\frac{2}{6} - \frac{5}{6}$

$1\frac{8}{6} - \frac{5}{6} = 1\frac{3}{6}$

ex. $2\frac{1}{4} \div \left(1\frac{3}{4} + 1\frac{1}{3}\right)$

$= \frac{9}{4} \div \left(2\frac{9}{12} + \frac{4}{12}\right)$

$= \frac{9}{4} \div 2\frac{13}{12}$

$2 + 1\frac{1}{12}$

$3\frac{1}{12}$

$= \frac{9}{4} \div \frac{37}{12}$

$= \frac{9}{4} \times \frac{12}{37}$

$= \frac{27}{37}$

ex. $2\frac{3}{8} - \frac{2}{5} \times \left(\frac{3}{4} - \frac{1}{8}\right)$

$= 2\frac{3}{8} - \frac{2}{5} \times \left(\frac{6}{8} - \frac{1}{8}\right)$

$= 2\frac{3}{8} - \frac{2}{5} \times \frac{5}{8}$

$= 2\frac{3}{8} - \frac{1}{4}$

$= 2\frac{3}{8} - \frac{2}{8}$

$= 2\frac{1}{8}$ OR $\frac{17}{8}$

ex. Solve each problem by writing one equation and solving it.

Bev earns $25 per hour. For time above 40 hours in a week she is paid time-and-a-half. How much is she paid in a 46 hour work week?

$= 40 \times 25 + (46 - 40) \times 25 \times 1\frac{1}{2}$

$= 1000 + \frac{75}{1} \times \frac{3}{2}$

$= 1000 + 225$

$= \$1225$

John eats one-fifth of a pizza and Jane eats one-quarter of the pizza. Dan eats half of what is left over after John and Jane eat. How much of the pizza did Dan eat?

$= \left[1 - \left(\frac{1}{5} + \frac{1}{4}\right)\right] \times \frac{1}{2}$

$= \left[1 - \left(\frac{4}{20} + \frac{5}{20}\right)\right] \times \frac{1}{2}$

$= \left[\frac{20}{20} - \frac{9}{20}\right] \times \frac{1}{2}$

$= \frac{11}{20} \times \frac{1}{2}$

$= \frac{11}{40}$

Dan eats 11/40 of the pizza.

Practice Assignment pg. 167/ #1 – 14, **15, 16**