6.6 Notes and Questions: Applying Fractional Operations

Order of Operations:

The order of operations for __fractions__ is the same as for
__decimals__ and __whole numbers__

B Brackets

E Exponents (Squares + Roots)

D ⟩ Division and multiplication are equally
M important. Do these from left to right.

A ⟩ Addition and subtraction are equally
S important. Do these from left to right.

Calculate:

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

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

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

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

$$= \frac{9}{6} \rightarrow \frac{3}{2}$$

$$= 2\frac{1}{4} \times \left(1\frac{3}{4} + 1\frac{1}{4}\right)$$

$$= \frac{9}{4} \times \left(\frac{7}{4} + \frac{5}{4}\right)$$

$$= \frac{9}{4} \times \frac{\cancel{12}^{3}}{4}$$

$$= \frac{27}{4}$$

① Do only set of steps per line

② Convert all mixed # to improper.

③ Recopy each line.

* Only adding + subtracting need a common denominator

$$= \frac{4}{5} + \frac{2}{3} \times \frac{3}{4} =$$

$$= \frac{4}{5} + \frac{1}{2}$$

$$= \frac{8}{10} + \frac{5}{10}$$

$$= \frac{13}{10}$$

$$= \left(\frac{4}{5} - \frac{1}{2}\right) \div \frac{9}{20} =$$

$$= \left(\frac{8}{10} - \frac{5}{10}\right) \div \frac{9}{20}$$

$$= \frac{3}{10} \div \frac{9}{20}$$

$$= \frac{3}{10} \times \frac{20}{9}$$

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

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a number right in front means multiply

$$= \frac{2}{7}\left(\frac{1}{3} + \frac{3}{4}\right) =$$

$$= \frac{2}{7}\left(\frac{4}{12} + \frac{9}{12}\right)$$

$$= \frac{2}{7} \times \left(\frac{13}{12}\right)$$

$$= \frac{13}{42}$$

$$= \frac{4}{5} \times 1\frac{2}{3} - \frac{6}{7} \div \frac{3}{2} =$$

$$= \frac{4}{5} \times \frac{5}{3} - \frac{6}{7} \div \frac{3}{2}$$

$$= \frac{4}{3} - \frac{6}{7} \times \frac{2}{3}$$

$$= \frac{4}{3} - \frac{4}{7}$$

$$= \frac{28}{21} - \frac{12}{21}$$

$$= \frac{16}{21}$$

Example #1

every hour counts for 1.5 hours

Malinda earns $14/h at Safeway. For time worked above 40 h in a week, she earns time-and-a-half. How much does Malinda earn for working 48 h in a week?

Calculate in Stages:	Evaluate One Expression

Calculate in Stages:

40 regular   8 overtime

$= 40 \times 14$

$= 560$

$= 8 \times 1\frac{1}{2} \times 14$

$= 8 \times \frac{3}{2} \times 14$

$= 168$

total $= 560 + 168$

$= 728$

Evaluate One Expression

$\$ = hours \times rate$

$= (40 + 8 \times 1\frac{1}{2}) \times 14$

$= (40 + 8 \times \frac{3}{2}) \times 14$

$= (40 + 12) \times 14$

$= 52 \times 14$

$= 728$

A Question to try…

HW p234 #4-8, 10-12

Amar is planting a garden to grow his own vegetables and fruit. Three quarters of his garden is made up of vegetables. The rest of his garden is for fruit. One third of the garden for fruit is used to grow strawberries. What fraction of the garden is used to grow strawberries?

Summary of Fraction Operations

Multiplying or dividing a Fraction by a Whole Number is like multiplying fractions because:

When multiplying complete fractions:_____

To multiply mixed numbers you need to: _____

To divide complete fractions:_____

To divide mixed numbers: _____