Math 60, Wednesday 4/2

- Please get out your practice homework from section 1.1
- Q's on 1.1
- New material 1.2

Checkpoint #1 on Friday over 1.1 + 1.2
Student Info sheet - due Friday

69, 71
85, 92
23

23. $\frac{2x-y+6}{2y-x}$ $x=7, y=5$

$$= \frac{2(7)-5+6}{2(5)-7}$$

$$= \frac{14-5+6}{10-7}$$

$$= \frac{9+6}{3}$$

$$= \frac{15}{3}$$

$$= 5$$

69, 71. 69. $4x+5=33$

71. $4(x+5)=33$

85.

92. $x-5$
$5-x$

100. It doesn't make sense because you can't ~~find~~ have a solution for an expression - only equations.

Section 1.2 - Fractions in Algebra

$\frac{7}{2}$ ← numerator, ← denominator

improper fraction

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

mixed number

$\frac{7}{2} = 3\frac{1}{2}$

$$\begin{array}{r} 3 \\ 2\overline{)\,7} \\ \underline{6} \\ 1 \end{array} \qquad 3\tfrac{1}{2}$$

$6\frac{1}{3}$

$= \frac{19}{3}$

$6\frac{1}{3} = \frac{19}{3}$

Simplifying

30. $\frac{8 \div 2}{14 \div 2} = \frac{4}{7}$

32. $\frac{18 \div 9}{45 \div 9} = \frac{2}{5}$ 9 is the greatest common factor

38. $\frac{38}{50} = \frac{19}{25}$

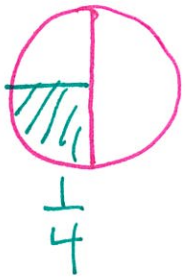
40. $\frac{116}{86} = \frac{58}{43}$

$\frac{51}{17} = 3$

Operations with fractions

Multiply: $\frac{1}{2}$ of a $\frac{1}{2}$

multiply



$\frac{1}{4}$

$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

multiply straight across

42. $\frac{3}{7} \cdot \frac{1}{4} = \frac{3}{28}$

48. $\frac{1}{8} \cdot \frac{2}{3} = \frac{2}{24} = \frac{1}{12}$

$\frac{1}{\cancel{8}_{4}} \cdot \frac{\overset{1}{\cancel{2}}}{3} = \frac{1}{12}$

cross-cancel

46. $\frac{8}{1} \cdot \frac{3}{7} = \frac{24}{7} = 3\frac{3}{7}$

symbolic work leave improper

word problems use mixed numbers

Divide

$\frac{1}{2} \div \frac{3}{1}$

$= \frac{1}{6}$

$\frac{1}{2} \cdot \frac{1}{3}$ multiply by the reciprocal

$= \frac{1}{6}$

62. $\frac{7}{4} \div \frac{3}{8}$

66. $1\frac{3}{4} \div 2\frac{5}{8}$ change to improper!

$= \frac{7}{4} \cdot \frac{\cancel{8}^{2}}{3}$

$= \frac{14}{3}$

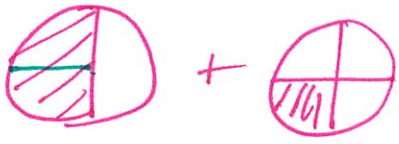
$= \frac{7}{4} \div \frac{21}{8}$

$= \frac{7}{\cancel{4}^{1}} \cdot \frac{\cancel{8}^{2}}{\cancel{21}_{3}}$

$= \frac{2}{3}$

Add + Subtract

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



LCD

least common denominator

~~$\frac{2}{6}$~~

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

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

$= \frac{3}{4}$

68. $\frac{5}{13} + \frac{2}{13}$

$= \frac{7}{13}$

74. $\frac{13}{18} - \frac{5}{18}$

$= \frac{8}{18}$

$= \frac{4}{9}$

80. $\frac{2 \cdot 3}{5 \cdot 3} + \frac{2}{15}$ LCD = 15

$= \frac{6}{15} + \frac{2}{15}$

$= \frac{8}{15}$

86. $\frac{3\cdot3}{2\cdot3} - \frac{2\cdot2}{3\cdot2}$ LCD = 6

$= \frac{9}{6} - \frac{4}{6}$

$= \frac{5}{6}$

Determine whether a number is a solution.

92. $\frac{5}{3}x = 30$; (18)

$\frac{5}{\cancel{3}_1} \cdot \frac{\cancel{18}^{6}}{1} \stackrel{?}{=} 30$

$30 = 30$ 18 is a solution

94. $w - \frac{3}{4} = \frac{7}{4}$; $2\frac{1}{2} = \frac{5}{2}$

$\frac{5\cdot2}{2\cdot2} - \frac{3}{4} \stackrel{?}{=} \frac{7}{4}$

LCD = 4

$\frac{10}{4} - \frac{3}{4} \stackrel{?}{=} \frac{7}{4}$

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

$2\frac{1}{2}$ is a solution

Translate

104. $\frac{1}{6}x$ of means multiply

110. $\frac{1}{9}x + \frac{1}{10}x = 15$