Pre-Algebra Chapter 5 Pre-Test

1.) (5 pts each, 10 pts total) (2-1) Find the lowest common denominator (LCD) of each pair of fractions. Write equivalent fractions using the LCD and compare. Use >, <, or = to compare each statement.

a) $\frac{23}{36}$ and $\frac{4}{6}$

$\frac{23}{36} < \frac{24}{36}$

$\frac{23}{36} = \frac{23}{36}$

$\frac{4}{6} \overset{*6}{=} \frac{24}{36}$ ($*6$)

$\frac{23}{36} \times \frac{4}{6}$

$(23)(6) \quad (36)(4)$

$138 < 144$

b) $\frac{5}{8}$ and $\frac{8}{12}$

2.) (5 pts) (2-2) Write the decimal as a fraction.

$n = 0.633333\ldots$

$n = 0.63333\ldots$

$100n = 63.3333\ldots$

$n = 0.6333\ldots$

$100n = 63.3333\ldots$

$-\ 10n = -6.33333\ldots$

$\frac{90n}{90} = \frac{57}{90}$

$n = \frac{57 \div 3}{90 \div 3} = \frac{19}{30}$

3.) (5 pts each, 10 points total) Convert as required.

a) Write 0.65 as a fraction.

$0.32 \rightarrow \frac{32 \div 4}{100 \div 4} = \frac{8}{25}$ (reduce)

$0.45 = \frac{45 \div 5}{100 \div 5} = \frac{9}{20}$

b) Write $\frac{3}{8}$ as a decimal.

$\frac{5}{8}$

$8 \overline{)5.000}$ (RIP)

-48

20

-16

40

-40

0

0.625

4.) (5 pts each, 10 pts total) (5-3) Find each difference. Reduce if needed.

a) $\frac{2}{3} - \frac{9}{15}$

$\frac{10}{15} - \frac{9}{15} = \frac{1}{15}$

$\frac{2}{3}$ $\frac{9}{15}$

$\frac{9}{15} = \frac{9}{15}$

$\frac{2}{3} = \frac{10}{15}$ (*5)

b) $8\frac{1}{3} - 3\frac{5}{6}$

$6\frac{10}{8} - 3\frac{3}{8} = 3\frac{7}{8}$

$7\frac{1}{4} - 3\frac{3}{8}$

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

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

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

5.) (5 pts each, 10 pts total) (5-3) Find each sum. Write as either an improper fraction or mixed number. Reduce if needed.

a) $\frac{5}{6} + \frac{4}{9}$

b) $7\frac{5}{12} + 2\frac{7}{16}$

6.) (5 pts each, 10 pts total) (5-4) Find the product.

$4\frac{1}{3} = \frac{(4*3)+1}{3} = \frac{12+1}{3} = \frac{13}{3}$

a) $4\frac{1}{3} \times \frac{9}{2}$

$\frac{13}{3} * \frac{9}{2}$ (÷3 on 3 and 9)

$\frac{13}{1} * \frac{3}{2} = \boxed{\frac{39}{2}}$

b) $\frac{4}{7} \times \frac{14}{16}$

7.) (5 pts each, 10 pts total) (5-4) Find the quotient.

a) $5\frac{1}{4} \div \frac{7}{8}$

b) $\frac{11}{12} \div \frac{2}{3}$

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$\frac{11}{12} \div \frac{2}{3}$

$\frac{11}{12} * \frac{3}{2}$ (÷3 on 12 and 3)

$\frac{11}{4} * \frac{1}{2} = \boxed{\frac{11}{8}}$

$\frac{11}{12} * \frac{3}{2} = \frac{33}{24} \div 3 = \boxed{\frac{11}{8}}$

8.) (5 pts each, 15 points total) (5-7) Solve each equation.

a) $x + \frac{3}{4} = \frac{7}{12}$

$-\frac{3}{4} \quad -\frac{3}{4}$

$X = \frac{7}{12} - \frac{3}{4}$

$\frac{7}{12} - \frac{9}{12} = \frac{-2 \div 2}{12 \div 2}$

$\boxed{-\frac{1}{6}}$

$\frac{7}{12} = \frac{7}{12}$

$\frac{3}{4} \overset{*3}{=} \frac{9}{12}$

b) $y - \frac{1}{7} = \frac{3}{5}$

c) $z - 5\frac{1}{2} = 6\frac{7}{10}$

9.) (5 pts each, 10 points total) (5-8) Solve each equation.

a) $\frac{-8}{3}x = 2\frac{4}{6}$ ← make into improper fraction

$2\frac{4}{6} = \frac{(2*6)+4}{6} = \frac{12+4}{6}$

$\frac{16}{6}$

$-\frac{3}{8}\left(-\frac{8}{3}x\right) = \left(\frac{16}{6}\right)\left(-\frac{3}{8}\right)$

$x = \left(\frac{16}{6}\right)\left(-\frac{3}{8}\right) = \frac{-48}{48} = \boxed{-1}$

b) $7\frac{9}{13}x = \frac{1}{8}$

$\left(\frac{16}{6}\right)\left(\frac{-3}{8}\right)$ $\div 3$ $\div 3$

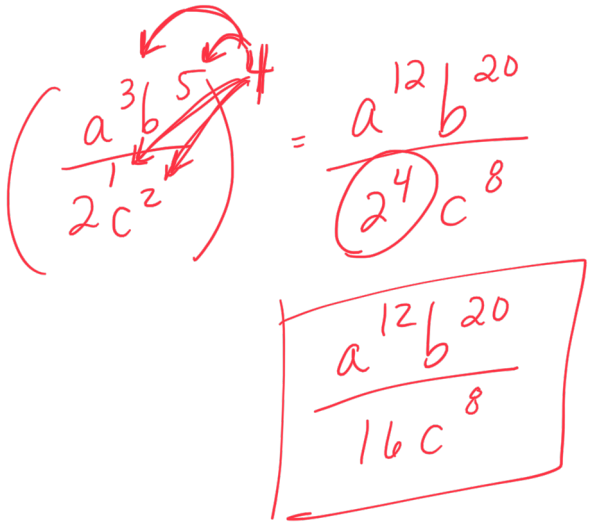
$\left(\frac{16}{2}\right)\left(\frac{-1}{8}\right)$ $\div 8$ $\div 8$

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

$(1)(-1) = -1$

10.) (5 pts each, 10 points total) (5-9) Simplify each expression.

a) $\left(\frac{a^3b^5}{c^2}\right)^3$



b) $\left(\frac{x^4y^6}{2z^2}\right)^4$

HW
Ch 5 Pre-Test
Optional Online HW 29
Ch 5 Review
Test (due May 11th)

*HW 027 April 30th
HW 028 May 7th