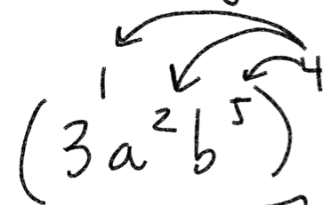


w-PA Pre-Algebra

Week 27

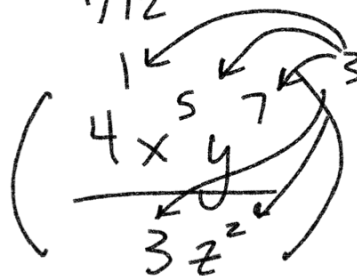
4/12

1.) $(3a^2b^5)$



3^4	a^8	b^{20}
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2.)

$$\frac{4x^5y^7}{3z^2}$$


4^{12}	x^{15}	y^{21}
<hr/>		
3^3	z^6	

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 $\frac{4}{6}$

Handwritten work: $23 \times 6 = 138$, $36 \times 4 = 144$. The fractions $\frac{23}{36}$ and $\frac{4}{6}$ are crossed out and replaced with $\frac{138}{144}$ and $\frac{96}{144}$ respectively. A comparison $<$ is shown below.

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

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

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

1.) Get version decimal is after the first repeat. $n = 0.633333\dots$

2.) Get version decimal is before the first repeat.

Handwritten work: $100n = 63.3333\dots$
 $- 10n = 6.3333\dots$

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

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

a) Write 0.65 as a fraction.

Handwritten work: $\frac{65 \div 5}{100 \div 5} = \frac{13}{20}$

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

Handwritten work: $\frac{3}{8} \rightarrow 0.375$

Handwritten long division: $8 \overline{) 3.000}$
 $- 24 \downarrow$
 $60 \downarrow$
 $- 56 \downarrow$
 $40 \downarrow$
 $- 40$
 0

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

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

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

$$\begin{array}{r}
 8\frac{1}{3} \quad \frac{1}{3} \stackrel{\times 2}{=} \frac{2}{6} \\
 - 3\frac{5}{6} \quad \frac{5}{6} = \frac{5}{6} \\
 \hline
 7\frac{2}{6} + \frac{6}{6} \\
 - 3\frac{5}{6} \\
 \hline
 7\frac{8}{6} \\
 - 3\frac{5}{6} \\
 \hline
 4\frac{3}{6} = \boxed{4\frac{1}{2}}
 \end{array}$$

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

$\boxed{9\frac{41}{48}}$

$$\begin{array}{r}
 7\frac{5}{12} \quad \frac{5}{12} \stackrel{\times 4}{=} \frac{20}{48} \\
 2\frac{7}{16} \quad \frac{7}{16} \stackrel{\times 3}{=} \frac{21}{48} \\
 \hline
 7\frac{20}{48} \\
 + 2\frac{21}{48} \\
 \hline
 9\frac{41}{48}
 \end{array}$$

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

a) $4\frac{1}{3} \times \frac{9}{2}$ $4\frac{1}{3} \rightarrow \frac{(4 \times 3) + 1}{3} = \frac{13}{3}$

$\frac{13}{3} \times \frac{9}{2}$ $\frac{9}{3} \div 3$

$\frac{13}{1} \times \frac{3}{2} = \frac{39}{2}$

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

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

a) $5\frac{1}{4} \div \frac{7}{8}$ $5\frac{1}{4} = \frac{21}{4}$

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

$\frac{21}{4} \times \frac{8}{7}$ $\frac{8}{4} \div 4$ $\frac{21}{1} \times \frac{2}{7}$ $\frac{21}{7} \div 7$

$\frac{3}{1} \times \frac{2}{1} = \frac{6}{1} = \boxed{6}$

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

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

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

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

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

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

$$\frac{7}{12} - \frac{9}{12} = -\frac{2}{12} \div 2 = -\frac{1}{6}$$

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

$$y = \frac{3}{5} + \frac{1}{7}$$

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

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

a) $-\frac{8}{3}x = 2\frac{4}{6}$

$$2\frac{4}{6} = \frac{(2 \cdot 6) + 4}{6} = \frac{16}{6}$$

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

$$x = \frac{16}{6} \cdot \frac{-3}{8} = \frac{16 \cdot -3}{2 \cdot 8} = \frac{2}{2} \cdot \frac{-1}{1} = -1$$

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

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

a) $\left(\frac{a^3 b^5}{c^2}\right)^3 = \frac{a^9 b^{15}}{c^6}$

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