

Practice Test – Unit 0

Rules

- Please show your work
- Please circle your answer.
- Please work in pencil.

Directions: Please write a prime factorization for the following.

1. 290

$$\begin{array}{l} \diagup \quad \diagdown \\ 29 \quad 10 \\ \diagdown \quad \diagup \\ 2 \quad 5 \end{array}$$
 $2 \cdot 5 \cdot 29$

2. 625

$$\begin{array}{l} \diagup \quad \diagdown \\ 5 \quad 125 \\ \diagdown \quad \diagup \\ 5 \quad 25 \\ \diagdown \quad \diagup \\ 5 \quad 5 \end{array}$$
 5^4

Directions: Please list the factor pairs of the following.

1. 96

$$\begin{array}{l} 1 \quad 96 \\ 2 \quad 48 \\ 3 \quad 32 \\ 4 \quad 24 \\ 6 \quad 16 \end{array}$$
8 12

3. 91

$$\begin{array}{l} \diagup \quad \diagdown \\ 1 \quad 91 \end{array}$$

Directions: Please find the GCF of the following. Show your factors.

1. 24 & 17

$$\begin{array}{l} \textcircled{1} \quad 24 \\ 2 \quad 12 \\ 3 \quad 8 \\ 4 \quad 6 \end{array}$$
 $\begin{array}{l} 17 \\ \textcircled{1} \quad 17 \end{array}$

2. 12, 24, 28

$$\begin{array}{l|l|l} \begin{array}{l} 12 \\ \diagup \quad \diagdown \\ 2 \quad 6 \\ 3 \quad 4 \end{array} & \begin{array}{l} 24 \\ \diagup \quad \diagdown \\ 2 \quad 12 \\ 3 \quad 8 \\ 4 \quad 6 \end{array} & \begin{array}{l} 28 \\ \diagup \quad \diagdown \\ 2 \quad 14 \\ 4 \quad 7 \end{array} \end{array}$$

Directions: Please find the least common multiple of the following. Show your list.

1. 8 & 12

8, 16, $\textcircled{24}$, 32, 40
12, $\textcircled{24}$, 36

2. 3, 4, 18

3, 6, 9, 12, 15, 18, 24, 37, 30, 33, $\textcircled{36}$
4, 8, 12, 16, 20, 24, 28, 32, $\textcircled{36}$
18, $\textcircled{36}$

Directions: Please describe the rules for addition of fractions

0. Make improper fractions
0. Get common denominator
1. Add the numerators
2. Keep the denominator
3. Simplify

Directions: Please simplify the following.

1. $\frac{7}{3} + \frac{5}{3}$

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

2. $2\frac{1}{3} + 5\frac{1}{7}$

$\frac{7}{3} + \frac{36}{7}$
 $\frac{49}{21} + \frac{108}{21}$
 $\frac{157}{21}$

3. $4\frac{1}{6} - 3\frac{1}{8}$

$\frac{25}{6} - \frac{25}{8}$
 $\frac{100}{24} - \frac{75}{24}$
 $\frac{25}{24}$

Directions: Please describe the rules for multiplication and division of fractions.

0. Convert all mixed fractions to improper fractions

1. Write all divisions as multiplication by reciprocal

Directions: Please simplify the following.

2. Simplify on the bowtie using GCF
 3. Multiply across.

1. $\frac{2}{5} \times \frac{25}{3}$
 $\frac{10}{3}$

$\frac{3}{10} \times \frac{24}{12} \times \frac{21}{7}$
 $\frac{3}{10} \cdot \frac{24}{12} \cdot \frac{15}{7} = \frac{9}{7}$

$3\frac{1}{5} \div 2\frac{2}{15}$
 $\frac{16}{5} \div \frac{32}{15}$
 $\frac{16}{5} \cdot \frac{15}{32} = \frac{3}{2}$

Directions: Please simplify. Your writing must show an elimination of the sign sign phenomenon.

1. $-5 - (-6)$

$-5 + 6$
 1

2. $12 + (-15)$

$12 - 15$
 -3

3. $-4(5) - 6(-3)$

$-20 + 18$
 -2

4. $4 - (6 \div 3) \times 2 + 5$

$4 - 2 \times 2 + 5$
 $4 - 4 + 5$
 $0 + 5$
 5

5. $2^3 - 4(4 - 6)$

$2^3 - 4(-2)$
 $8 - 4(-2)$
 $8 + 8$
 16

6. $2^2 + 3^2 - 14^2$

$4 + 9 - 196$
 $13 - 196$
 -183