Name Key

Your score 8pts Percent _____ %

Possible points 8pts Grade _____

once you finished grading, complete your scales.

Unit 2 Pre-Test

Math 7 2016_2017

Show all steps just like my key. Thx.

Show work on *ALL* problems

Standard 7.NS.2 Apply and extend previous understandings of multiplication and division & of fractions to multiply and divide rational numbers

Standard 7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers

Solve the following addition & subtraction problems involving rational numbers:

1) $3 \cdot \frac{5}{8} + \frac{3}{6} \cdot 4$

$3 \cdot 8 \quad 6 \cdot 4$

$\frac{15}{24} + \frac{12}{24} = \frac{27}{24} = 1\frac{3}{24} =$

$= 1\frac{1}{8}$ (1pt)

2) $3\frac{2}{7} - 1\frac{5}{7}$ $2\left(\frac{1}{7}+\frac{2}{7}\right)$

$2\frac{9}{7} - 1\frac{5}{7}$

$1\frac{4}{7}$ (1pt)

Solve the following addition & subtraction problems involving rational numbers:

3) $12\frac{4}{6} \times \frac{2}{-3}$ (1pt)

reduce

change into an improper fraction

$12\frac{2}{3} * \frac{2}{-3}$

$\frac{38}{3} * \frac{2}{-3} = \frac{76}{-9}$ or $-8\frac{4}{9}$

4) $5\frac{1}{3} \div 6\frac{1}{4}$ (1pt)

Copy • flip

$5\frac{1}{3} \div 6\frac{1}{4}$

$\frac{16}{3} \div \frac{25}{4}$

change into improper fraction

$\frac{16}{3} \cdot \frac{4}{25}$ (reduce if you can) $= \frac{64}{75}$

Find common denominator for +/-

Do not find common denominator for multiplication/division.

Standard 7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients

5) Write an equivalent expression for $\frac{3}{4}(x + \frac{5}{2}) - \frac{2}{3}$

1pt

Distributive property

$\frac{3}{4} x + \left[\frac{15}{8} - \frac{2}{3}\right]$

$\frac{3}{4} x + \frac{29}{24}$

Common denominator

$\frac{15}{8} \cdot \frac{3}{3} - \frac{2}{3} \cdot \frac{8}{8}$

$\frac{45}{24} - \frac{16}{24} = \frac{29}{24}$

6) Simplify the complex fraction.

1pt

$\frac{\frac{2}{3}}{\frac{5}{8}}$ copy · flip

$\frac{2}{3} \cdot \frac{8}{5}$ (reduce if you can)

$\frac{16}{15}$

7) Find the unit rate for the following problem.

Tommy ran $\frac{3}{4}$ of a mile in $\frac{1}{8}$ hour. What was his running speed in miles per hour?

1pt

$\frac{\frac{3}{4}}{\frac{1}{8}}$ copy · flip

$\frac{3}{1} \cdot \frac{8^{2}}{1}$ Reduce

$= \frac{6 \text{ miles}}{1 \text{ hr}}$

8) Write an equivalent expression for the expression below, making sure to factor:

1pt

$\frac{1}{2}b + 12$

factor (slide method)

$\frac{1}{2}(b + 24)$

notice that this # is larger than the original b/c dividing by a proper fraction ↑ the value...