Chapter 1 Review

Name:_____

7th Grade Math

1) Simplify.

a. $-12 + 20$

8

b. $10 + -4$

14

c. $-40 + -23$

-63

d. $-5 + -15$

-20

e. $-8 - 6$

-14

f. $-5 \bullet -11$

55

g. $9 \div -3$

-3

h. $-40 \div -2$

20

i. -3^2

$-3 \cdot 3$

-9

j. $-32 + 11$

-21

k. $21 - 40$

-19

l. $-a + 4$
if $a = 7$

$-7 + 4$ = -3

m. $-8 - a$
if $a = -8$

$-8 + 8$ = 0

n. $10 - a$
if $a = -12$

$10 + 12$ = 22

o. $-a + -6$
if $a = -11$

$-(-11) + -6$

$11 + -6$ = 5

p. $-4 - a$
if $a = |4|$

$-4 - |4|$

$-4 - 4$ = -8

q. $-10 \bullet a$
if $a = |-5|$

$-10 \cdot 5$

-50

r. $-3 \bullet a$
if $a = -|3|$

$-3 \cdot -3$ = 9

s. a^2
if $a = -12$

$(-12)^2$

$-12 \cdot -12$ = 144

t. $-16 \div a$
if $a = -2$

$-16 \div -2$

8

u. $-a + b$
if $a = 4$, $b = 4$

$-4 + 4$ = 0

v. $a - b$
if $a = -|-4|$, $b = 4$

$-|-4| - 4$

$-4 - 4$

-8

w. $-4 + 3 - 6 + 1 + 4$

$-1 - 6 + 1 + 4$

$-7 + 1 + 4$

$-6 + 4$

-2

x. $(-5)^2$

$-5 \cdot -5$

25

2) Convert each of the following to a decimal without using a calculator and then determine if it is a terminating or repeating decimal.

a. $\frac{5}{6}$ = $0.\overline{83}$ repeating

$6\overline{)5.000}$
$-48\downarrow$
20
$-18\downarrow$
20
-18
2

b. $\frac{2}{5}$ = 0.4 terminating

$5\overline{)2.0}$
-20
0

c. $\frac{3}{8}$ = 0.375 terminating

$8\overline{)3.000}$
$-24\downarrow$
60
$-56\downarrow$
40

d. All decimals that terminate or repeat are called rational numbers.

3) Which is greater?

a. 0.3475 > 0.34721

b. −0.72 > −0.76

c. $\frac{5}{6}$ > $\frac{2}{3}$

$0.8\overline{3}$ and $0.\overline{6}$

$6\overline{)5.00}$
-48
20
-18
2

$3\overline{)2.00}$
$-18\downarrow$
20

d. $-\frac{1}{4}$ > $-\frac{5}{6}$

-0.25 and $-0.8\overline{3}$

$4\overline{)1.00}$
$-8\downarrow$
20

$6\overline{)5.00}$
$-48\downarrow$
20

e. $2\frac{5}{8}$ or 0.7

$2\frac{5}{8}$ = 0.625

$8\overline{)5.00}$
$-48\downarrow$
20
-16
40

0.7

f. −0.3 < $-\frac{1}{4}$

−0.3 and −0.25

4) Put the following numbers in order from least to greatest.

$\frac{3}{4}$, 0.3, 0.62, 0.04, $\frac{1}{2}$

$4\overline{)3.00}$
$-28\downarrow$
20
-20
0

$\frac{3}{4}$ = 0.75

$2\overline{)1.0}$
-10
0

$\frac{1}{2}$ = 0.5

0.04, 0.3, $\frac{1}{2}$, 0.62, $\frac{3}{4}$

5) Compute each of the following...

a. $\frac{5}{6}\cdot\frac{2}{2}+\frac{1}{4}\cdot\frac{3}{3}$

$\frac{10}{12}+\frac{3}{12}=\frac{13}{12}$

$=1\frac{1}{12}$

b. $\frac{5}{6}\bullet\frac{1}{4}=\boxed{\frac{5}{24}}$

c. $\frac{5}{6}\div\frac{1}{4}$

$\frac{5}{\cancel{6}_3}\cdot\frac{\cancel{4}^2}{1}=\frac{10}{3}$

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

d. $4\frac{1}{2}-3\frac{6}{7}$

$\frac{9}{2}\cdot\frac{7}{7}-\frac{27}{7}\cdot\frac{2}{2}$

$\frac{63}{14}-\frac{54}{14}=\frac{9}{14}$

$\begin{array}{r}63\\-54\\\hline 9\end{array}$

e. $-4\frac{1}{2}\bullet 3\frac{2}{3}$

$\frac{-9}{2}\cdot\frac{11}{\cancel{3}_1}=\frac{-33}{2}$

$=-16\frac{1}{2}$

f. $-4\frac{1}{2}\div -3\frac{6}{7}$

$\frac{-9}{2}\div\frac{-27}{7}$

$\frac{-9}{2}\cdot\frac{-7}{\cancel{27}_3}=\frac{7}{6}$

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

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

$\frac{5}{1}+\frac{23}{7}$

$\frac{35}{7}+\frac{23}{7}=\frac{58}{7}$

$=8\frac{2}{7}$

h. $5\bullet -3\frac{2}{5}$

$\frac{\cancel{5}^1}{1}\cdot\frac{-17}{\cancel{5}_1}=\frac{-17}{1}$

$=-17$

i. $5\div 3\frac{4}{7}$

$\frac{5}{1}\div\frac{25}{7}$

$\frac{\cancel{5}^1}{1}\cdot\frac{7}{\cancel{25}5}=\frac{7}{5}$

$=1\frac{2}{5}$

j. $\frac{4}{5}-1\frac{2}{3}$

$\frac{4}{5}\cdot\frac{3}{3}-\frac{5}{3}\cdot\frac{5}{5}$

$\frac{12}{15}-\frac{25}{15}=\frac{-13}{15}$

k. $-\frac{4}{5}\cdot\frac{4}{4}\cdot\frac{3}{4}\cdot\frac{5}{5}$

$-\frac{16}{20}-\frac{15}{20}$

$\frac{-31}{20}=-1\frac{11}{20}$

l. $-1\frac{1}{3}+3\frac{3}{4}$

$-\frac{4}{3}+\frac{15}{4}\cdot\frac{3}{3}$

$-\frac{16}{12}+\frac{45}{12}$

$\frac{29}{12}=2\frac{5}{12}$

$\begin{array}{r}3\cancel{4}5\\-16\\\hline 29\end{array}$

6) At the end of the year, Mrs. Thelen had a party for her 6th hour. At the party, the girls ate $3\frac{1}{2}$ pizzas and the boys ate $7\frac{1}{2}$ pizzas, how many pizzas were eaten at the party?

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

$\frac{7}{2} + \frac{15}{2} = \frac{22}{2} =$ 11 pizzas

7) Shelbisin will spend $\frac{2}{3}$ of a week falling at the movies and spilling popcorn all over people, and $2\frac{1}{5}$ weeks pretending she's a princess. How many weeks in total will she spend doing these silly activities?

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

$\frac{2}{3}\cdot\frac{5}{5} + \frac{11}{5}\cdot\frac{3}{3}$

$\frac{10}{15} + \frac{33}{15} = \frac{43}{15} = 2\frac{13}{15}$ weeks

8) Lila wanted to kick her soccer ball $\frac{3}{4}$ of the way across the field. On her first try, she kicked it $\frac{7}{16}$ of the way. How much further did she have to go to reach her goal?

$\frac{3}{4}\cdot\frac{4}{4} - \frac{7}{16}$

$\frac{12}{16} - \frac{7}{16} = \frac{5}{16}$ of the way

9) Troy has $\frac{7}{8}$ of a pizza left, how many $\frac{1}{16}$ can he cut from what he has?

$\frac{7}{8} \div \frac{1}{16}$

$\frac{7}{8} \cdot \frac{16}{1}^{2} = \frac{14}{1} =$ 14 pieces

10)Mr Cravatta's truck gets 18 miles/gallon and he has $5\frac{5}{9}$ gallons of gas in his tank. How far can he drive?

$18 \cdot 5\frac{5}{9}$

$\frac{18}{1} \cdot \frac{50}{9} = \frac{100}{1} =$ 100 miles

11) Describe a situation where two numbers would combine to make zero.

A scuba diver dives 45 feet below the surface of the water and then swims 45 feet back toward the surface

12)Without solving, Juaquin says the value of w must be negative.

$$\frac{14}{152} \times \frac{-6}{120} \times \frac{-54}{89} \times \frac{-74}{126} = w$$

Is Joaquin correct? Why or why not?

Yes because the are 3 negative factors in the problems & 3 is odd.

13) In the expression $m \div n, m > 0$ *and* $n < 0$. What must be true?

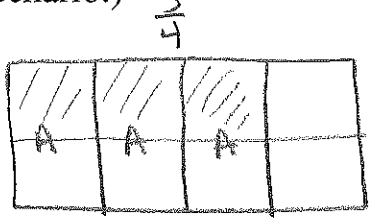
a. $m \div n$ will always be negative.

b. $m \div n$ may be positive or negative, depending on which number has the larger absolute value.

c. $m \div n$ will always be positive.

d. Not enough information provided.

14) Three fourths of Mrs. Thelen's students have A lunch. One half of those students bring their own lunch to school. What fraction of Mrs. Thelen's students go to lunch A and bring their own lunch. (Hint: You may want to draw a picture to help illustrate this scenario.)



$\frac{3}{8}$ of the students

Answers:

1) a. 8 b. 14 c. –63 d. 10 e. –14 f. 55 g. –3 h. 20 i. –9 j. –21 k. –19 l. –3 m. 0 n. 22 o. 5 p. –8 q. –50 r. 9 s. 144 t. 8 u. 0 v. –8 w. –2 x. 25
2) a. 0.8333... (repeating) b. 0.4 (terminating) c. 0.375 (terminating) d. rational
3) a. > b. > c. > d. > e. < f. <
4) 0.04, 0.3, $\frac{1}{2}$, 0.62, $\frac{3}{4}$
5) a. $1\frac{1}{12}$ b. $\frac{5}{24}$ c. $3\frac{1}{3}$ d. $\frac{9}{14}$ e. $-16\frac{1}{2}$ f. $1\frac{1}{6}$ g. $8\frac{2}{7}$ h. -17 i. $1\frac{2}{5}$ j. $-\frac{13}{15}$ k. $-1\frac{11}{20}$ l. $2\frac{5}{12}$
6) 11
7) $2\frac{13}{15}$
8) $\frac{5}{16}$
9) 14
10) 100
11) A scuba diver dives -45 feet below the surface of the water and then swims 45 feet back toward the surface.
12) Yes, Juaquin in correct because there are an odd (3) number of negative terms in the problem.
13) A.
14) $\frac{3}{8}$