Math 6 - Unit 1: Number System Fluency

Mid-Unit Test STUDY GUIDE - OL

Name: ANSWER KEY

Class Period: 1 2 3 4 Date: _____
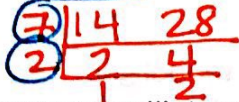
1) What does 45 ÷ 9 mean?

It means, how many groups of 9 are in 45?

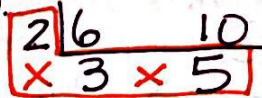**2)** Is it possible to find the "Greatest Common Multiple" of 2 numbers?

3: 3, 6, 9, 12 · · ·   NO, because multiples go on forever (infinite)

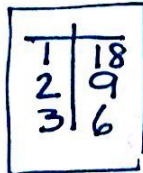**3)** Find the greatest common factor of 14 and 28.

$$
\begin{array}{c|cc}
7 & 14 & 28 \\
2 & 2 & 4 \\
& 1 & 2
\end{array}
$$

GCF = 7 × 2 = $\boxed{14}$

4) Find the least common multiple of 6 and 10.

$$
\begin{array}{c|cc}
2 & 6 & 10 \\
\times 3 & \times 5
\end{array}
$$

LCM = 2 × 3 × 5 = $\boxed{30}$

5) List **ALL** the **factors** of 18?

$$
\begin{array}{c|c}
1 & 18 \\
2 & 9 \\
3 & 6
\end{array}
$$

6) List the first 4 **multiples** of 8.

1×8   2×8   3×8   4×8

→ 8, 16, 24, 32

7) List two numbers that are **NOT** divisible by 3?

7, 22

8) If a number isn't even, can it be divisible by 6?

NO, because in order to be divisible by 6, it has to be divisible by both 2 + 3. Since not even 2 isn't a factor. Since 2 isn't 6 can't be.

9) Lauren buys dog food every 4 days and cat food every 5 days. If she buys both kinds of pet food today, in how many days will she **next** buy both kinds of pet food?
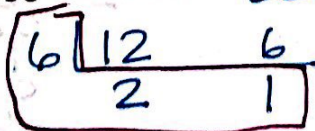
DF: 4, 8, 12, 16, 20
CF: 5, 10, 15, 20

20TH DAY SHE WILL BUY BOTH.

10) Eggs are sold in packages of 12 and English muffins are sold in packages of 6. What is the least number of packages of each that can be bought to make egg sandwiches (one egg and one muffin) with no muffins or eggs left over?

E : 12
M : 6

LCM

$$
\begin{array}{c|cc}
6 & 12 & 6 \\
& 2 & 1
\end{array}
$$

6 × 2 × 1 = 12 SANDWICHES

1 PACK OF EGGS
2 PACK OF MUFFINS

11) Ticket sales for a concert totaled $77,778. Tickets for the concert cost $18 each. How many tickets were sold?

$$18\overline{)77778}$$

12) A roller coaster train holds 32 passengers. If there are 266 people in line to ride, how many times will the train have to go for everyone to be able to ride?

$$\boxed{9 \text{ trains}}$$

$$32\overline{)266} \\ \underline{250} \\ \rightarrow 16$$

people who want to ride → 16

$$32 \\ \underline{\times 8} \\ 256$$

13) There are 35 kids in a class. The teacher is putting them in teams of 7. How many **complete** teams of 7 can be made?

$$7\overline{)35}^{\,5}$$

5 TEAMS

$$7\overline{)36}^{\,5} \\ \underline{-35} \\ 1$$

14) Jonathan has two rolls of streamers to use in decorating the school gym for a pep rally. The blue roll is 48 yards long, and the yellow is 16 yards long. If he wants to make all of the streamers the same length, what is the (greatest) length each streamer can be?

$$\begin{array}{c|cc} 8 & 48 & 16 \\ 2 & 6 & 2 \\ & 3 & 1 \end{array}$$

GCF = 8×2 = 16

16yds long

15) How can you quickly determine if a number is divisible by 5?

ENDS IN ZERO OR 5

16) What number is a factor of all numbers?

1

17) A bookshelf is 17 inches long. Math textbooks are 3 inches. How many math textbooks can go on this shelf?

$$3\overline{)17}^{\,5} \\ \underline{-15} \\ 2$$

$$\boxed{5 \text{ books fit}}$$

18) There are 36 boys and 24 girls playing in a co-ed softball league. All teams will have boys and girls, and each team must have the same number of girls and the same number of boys. Answer the following questions. _Show your work and clearly explain it in complete sentences._

   a) What is the (greatest) number of teams they can make? **12**
   b) How many boys will be on each team? **3**
   c) How many girls will be on each team? **2**

$$12\overline{)36 \quad 24} \\ 3 \quad\; 2$$

19) 520 ÷ 3 = $\boxed{173\frac{1}{3}}$

$$3\overline{)520} \\ \underline{-3}\downarrow \\ 22 \\ \underline{-21}\downarrow \\ 10 \\ \underline{-9} \\ 1$$

20) 9990 ÷ 18 =

$$\boxed{555}$$

$$18\overline{)9990} \\ \underline{-90}\downarrow \\ 99 \\ \underline{-90}\downarrow \\ 90 \\ \underline{-90} \\ 0$$

$$18 \\ \underline{\times 5} \\ 90$$