Name __KEY__

Unit 2 Fake Test

1. List all the factors of 40 and circle the ones that are prime.

$1 \times 40 \quad 4 \times 10$
$2 \times 20 \quad 5 \times 8$

1, ②, 4, ⑤, 8, 10, 20, 40

2. Find the Greatest Common Factor (GCF) of 48 and 72.

2|48 72
3|24 36
   12 18

2|12 18
3|6   9
   2   3

$2 \times 2 \times 2 \times 3 \times 1$

$8 \times 3 \times 1$

㉔

3. Find the Least Common Multiple (LCM) of 4 and 6.

4 : 4, 8, ⑫
6 : 6, ⑫

2|4 6
   2 3

$2 \times 2 \times 3$ ⑫

Use this information to answer #4-5: At the concert, every 5th person to enter gets a wristband and every 7th person to enter gets a water bottle.

4. What number person will be the first person to get a wristband and a water bottle?

5 : 5, 10, 15, 20, 25, 30, ㉟
7 : 7, 14, 21, 28, ㉟

35 th person

5. If there were 200 people who went to the concert, how many will get both items?

35, 70, 105, 140, 175 | 210
  1   2   3   4   5

⟦5 people⟧

6. There are 63 boys and 70 girls participating in the soccer league. If teams must have the same number of boys and girls and everyone needs to be assigned to a team. What is the greatest number of teams the league can have?

GCF

7|63   70
  |9   10
   1

⟦7 teams⟧

7. Mrs. Tuttle walks Scarlet and Nash every day. She takes them both out at 5:00 AM. She takes Nash out every 3 hours and Scarlet out every 4 hours. When is the next time that Mrs. Tuttle will take both dogs out again?

5:AM + 12 hrs = ⟦5:00 PM⟧

NASH - 3, 6, 9, ⑫
SCARLET - 4, 8, ⑫

12 hours later

Use this information to answer #8-9: Jill has 54 whistles and 42 balloons to make goodie bags. Each goodie bag will have the same number of whistles and balloons. She wants to use all of the whistles and balloons.

8. She wants to create the largest number of goodie bags for her friends. How many goodie bags can she make?

GCF

        W   B
2|54 42
3|27 21
   9   7

$2 \times 3 = 6$

⟦6 goodie bags⟧

9. How many balloons will be in each goodie bag?

$42 \div 6 = 7$

7 balloons

↑ ↑
W B

10. Larry and Mo are running on a trail in the park. Larry completes his first lap in 5 minutes. Mo completes his first lap in 8 minutes. If they both start at the same place and at the same time, how many minutes will it be before they meet again?

Larry — 5, 10, 15, 20, 25, 30, 35, (40) ⟵ LCM ①|5 8

Mo — 8, 16, 24, 32, (40)

$\boxed{40 \text{ minutes}}$

11.   a. Find the GCF of 45 and 63.

3|45 63 $3 \times 3 = 9$ GCF = 9
3|15 21
  |5   7

b. Using the GCF, re-write the sum using the distributive property

9 (5 + 7)

12. George says the GCF of 36 and 27 is 3. Is he correct?

CIRCLE :   Yes   OR   (No)
Explain your thinking:

The GCF of 36 and 27 is 9

3|36 27
3|12 9
1|4   3

13. The LCM of ____4____ and 6 is 12.   2, 4, 6

6, 12, 18   3, 6, 9

                                           4, 8, 12

14. Solve the expression:

PEMDAS

$3(4 + 18 \div 3) - 7 + 2$ 23 + 2
$3(4 + 6) - 7 + 2$ (25)
$3(10) - 7 + 2$
$30 - 7 + 2$

15. What is the missing exponent

$3^2 = 9$ $3 \times 3 \times 3 = 27$
3×3 $3^3 = 27$ $\left[\frac{1}{3}\right]^{(4)} = \frac{1}{81}$ $3 \times 3 \times 3 \times 3 = 81$
 9    $3^4 = 81$ $\frac{1}{3} \times \frac{1}{3} \times \frac{1}{3} \times \frac{1}{3} = \frac{1}{81}$

16. Evaluate

$\frac{2 \times 2}{4} \times 2 = 8 \times 2 = 16$ $\left[\frac{2}{10}\right]^4$ $\frac{2}{10} \times \frac{2}{10} \times \frac{2}{10} \times \frac{2}{10} = \boxed{\frac{16}{10000}}$ OR $\frac{1}{625}$