Starter Quiz ·

GRE General Test Name: _____ Score: _____

1. What is the least common multiple of 8, 12 and 20?

   _____

2. What is the greatest common factor of 84 and 126?

   _____

3. An integer n leaves remainder 4 when divided by 6. What remainder does $2n$ leave when divided by 6?

   _____

4. A class contains only boys and girls. The ratio of boys to girls is 3 : 5. What fraction of the class are girls?

   ☐ 3/8

   ☐ 3/5

   ☐ 5/8

   ☐ 5/3

5. The LCM of 12 and 18 is 36.

   ☐ True ☐ False

6. Every positive integer divisible by both 2 and 3 is divisible by 12.

   ☐ True ☐ False

7. What is the remainder when -17 is divided by 5?

   _____

8. Which values can be remainders when an integer is divided by 6? Select all valid offered values.

   ☐ 5

   ☐ -1

   ☐ 8

   ☐ 0

   ☐ 2

   ☐ 6

Tick every correct option.

9. Integers a and b leave remainders 3 and 5, respectively, when divided by 7. What remainder does a + b leave when divided by 7?

   _____

10. A class contains only boys and girls, with boys:girls = 3:5. If there are 64 students, how many are girls?

    _____

Answers ·

GRE General Test

1. **120**

   $2^3 \cdot 3 \cdot 5 = 120$.

2. **42**

   $84 = 2^2 \cdot 3 \cdot 7$, $126 = 2 \cdot 3^2 \cdot 7$; GCF $= 2 \cdot 3 \cdot 7 = 42$.

3. **2**

   Write $n = 6q + 4$. Then $2n = 12q + 8 = 6(2q + 1) + 2$, so the remainder is 2 for every integer q. The value 8 is an intermediate total, not a valid remainder for divisor 6.

4. **5/8**

   Girls are 5 of every 8 students.

5. **True**

   True. $12 = 2^2 \cdot 3$ and $18 = 2 \cdot 3^2$, so the LCM is $2^2 \cdot 3^2 = 36$. The product 216 is a common multiple but not the least.

6. **False**

   False: 6 and 18 each have factors 2 and 3, but lack a second factor of 2. Divisibility by 12 requires 2^2 and 3.

7. **3**

   $-17 = 5(-4) + 3$, with $0 \leq 3 < 5$. A negative residual is not an allowed remainder.

8. **5; 0; 2**

   For divisor 6 the allowed integers are 0, 1, 2, 3, 4 and 5. From the offered values select 0, 2 and 5.

9. **1**

   The remainder sum is 8, which is 7 + 1. Algebraically $a + b = 7(u + v + 1) + 1$.

10. **40**

    There are eight equal ratio parts. Each has $64/8 = 8$ students, so girls $= 5 \times 8 = 40$.