DIVISIBILITY

1. Which of the following are divisible by 2? Which are divisible by 3? Which are divisible by 6?

a) 4216 **b)** 739 **c)** 8391 **d)** 79 284

2. Which of the following have 4 as a factor? Which are multiples of 8?

a) 3488 **b)** 72 916 **c)** 1 000 816 **d)** 116 208

3. Determine which lengths of wire can be cut into 5m pieces without any waste?

a) 105m **b)** 3140m **c)** 17 364m

4. Coach Ing wants to divide 738 students into intramural teams with 9 players each. Can he divide the students evenly?

5. Leap years occur in years divisible by 4 and *not divisible by 1000*. Which of the following are leap years?

a) 1928 **b)** 1946 **c)** 2000 **d)** 2024

6. Which of the following are divisible by 11?

a) 429 176 **b)** 70 908 795 **c)** 25 835 238

7. Find all the possible digits for □ that would make 491□ divisible by:

a) 2 **b)** 3 **c)** 5 **d)** 11

8. Find all the possible digits for □ that would make 19□0 divisible by:

a) 5 **b)** 4 **c)** 8 **d)** 9

9. Determine the smallest natural number that is divisible by *every whole number from 1 to 10*.

FACTORS, DIVISORS, PRIMES, ETC…

1. Determine whether each number is *prime* or *composite*:
a) 9 **b)** 7 **c)** 23 **d)** 24

2. Write *all the factors* of the following numbers:
a) 32 **b)** 48 **c)** 54 **d)** 90

3. Write the following numbers as a product of their prime factors:
a) 300 **b)** 936 **c)** 2450 **d)** 7986

4. A *perfect number* is one that is **the sum of all its factors <u>except itself</u>**. For example, 6 is perfect since 1, 2, 3 and 6 are all its factors and $1+2+3=6$.
Find the next two perfect numbers. (*Hint*: one is less than 30 and the other is between 490 and 500.)

5. Write all the possible whole number dimensions for a rectangle having an area of $36m^2$.

6. Find the **GCF** for the following:
a) 28, 49 **b)** 32, 48 **c)** 24, 36 **d)** 18, 24 **e)** 25, 50 **f)** 12, 18, 24

7. Find the **LCM** for the following:
a) 18, 27 **b)** 10, 25 **c)** 16, 24 **d)** 32, 40 **e)** 28, 36 **f)** 24, 36, 12

8. For any two prime numbers greater than 3, the difference of their squares is always a multiple of 24. Show three examples of this.

9. Find:
a) the *largest* 2-digit prime number
b) a 2-digit prime number that remains prime when the numbers are reversed