

UNIT 1: NUMBER SYSTEM FLUENCY

DIVISIBILITY RULES

2: LAST DIGIT IS EVEN (0, 2, 4, 6, 8)

EX: 124
yes

137
NO

2430
YES

3: IF THE SUM OF THE DIGITS IS DIVISIBLE BY 3.

EX: 12345

$$1+2+3+4+5=15$$

yes $15 \div 3 = 5$

1235741

$$1+2+3+5+7+4+1=23$$

no $23 \nmid 3$

4: IF THE LAST 2 DIGITS ARE DIVISIBLE BY 4.

EX: 12448

yes $48 \div 4 = 12$

13721

NO $21 \nmid 4$

5: IF IT ENDS IN 5 OR 0.

EX: 10

yes

12

NO

132075

yes

6: IF 2 AND 3 ARE FACTORS

EX: 124

NO BECAUSE
3 IS NOT
A FACTOR

EX: 12573

NO BECAUSE
2 IS NOT
A FACTOR

534

YES
2+3 ARE
FACTORS

9: IF THE SUM OF THE DIGITS IS DIVISIBLE BY 9.

EX: $1^+2^+3^+4^+5 = 15$ NO $15 \nmid 9$

$1^+2^+3^+4^+5^+3 = 18$ YES

10: END IN ZERO

def

FACTORS: A WHOLE NUMBER THAT DIVIDES EXACTLY INTO ANOTHER NUMBER (NO REMAINDER)

6: 1, 2, 3, 6

1	6
2	3

FACTORS ARE ALWAYS THE SAME AS OR **SMALLER** THAN ORIGINAL NUMBER

def

MULTIPLES: THE PRODUCT OF A NUMBER AND ANY WHOLE NUMBER

3: 3, 6, 9, 12, 15, 18, 21
 3×1 3×2 3×3 3×4 3×5 3×6 3×7

MULTIPLES ARE ALWAYS THE SAME AS OR **BIGGER** THAN ORIGINAL NUMBER