

Divisibility Rules

If a number ends in a 0, 2, 4, 6 or 8 then the number is even and **divisible by 2**.

Which of these numbers are divisible by 2?

- | | | | | |
|-----------|-----------|----------|-----------|-----------|
| a. 3,782 | b. 9,994 | c. 5,673 | d. 27,183 | e. 82,718 |
| f. 1,827 | g. 18,290 | h. 228 | i. 15 | j. 871 |
| k. 13,570 | l. 736 | m. 90 | n. 82,918 | o. 899 |

If the unit digit sum is 3, 6 or 9 then the number is divisible by 3.

eg $283739484 \rightarrow 2+8+3+7+3+9+4+8+4 = 48$

$$4+8=12$$

$1+2=3$ and this is the unit digit sum

As the unit digit sum is 3, then the number 283739484 is **divisible by 3**.

Which of these numbers are divisible by 3?

- | | | | | |
|----------|---------|---------|---------|--------------|
| a. 26 | b. 48 | c. 51 | d. 87 | e. 98 |
| f. 81 | g. 928 | h. 281 | i. 182 | j. 1234 |
| k. 54321 | l. 3217 | m. 8289 | n. 1827 | o. 987654321 |

If a number ends in 5 or 0 then it is **divisible by 5**.

Which of the following numbers are divisible by 5?

- | | | | | |
|----------|--------|-----------|----------|---------|
| a. 32780 | b. 726 | c. 582915 | d. 74826 | e. 5555 |
| f. 8927 | g. 15 | h. 7245 | i. 95 | j. 500 |

If a number is divisible by 3 and divisible by 2, then it is **divisible by 6**.

Which of the following numbers are divisible by 6?

- | | | | | |
|--------|--------|---------|---------|---------|
| a. 66 | b. 84 | c. 102 | d. 508 | e. 1827 |
| f. 382 | g. 487 | h. 1828 | i. 1798 | j. 1829 |

If the unit digit sum of a number is 9, then the number is **divisible by 9**.

Which of the following is divisible by 9?

- | | | | | |
|---------|---------|--------|------------|--------------|
| a. 27 | b. 270 | c. 279 | d. 300 | e. 216 |
| f. 1283 | g. 2837 | h. 738 | i. 2719472 | j. 182917281 |

Answers:

Divisibility by 2:

a	b	c	d	e	f	g	h	i	j
Y	Y	N	N	Y	N	Y	Y	N	N
k	l	m	n	o					
Y	Y	Y	Y	N					

Divisibility by 3:

a	b	c	d	e	f	g	h	i	j
N	Y	Y	Y	N	Y	N	N	N	N
k	l	m	n	o					
Y	N	Y	Y	Y					

Divisibility by 5:

a	b	c	d	e	f	g	h	i	j
Y	N	Y	N	Y	N	Y	Y	Y	Y

Divisibility by 6:

a	b	c	d	e	f	g	h	i	J
Y	Y	Y	N	N	N	N	N	N	N

Divisibility by 9:

a	b	c	d	e	f	g	h	i	J
Y	Y	Y	N	Y	N	N	Y	N	N

Complete the following table by filling in the blanks.

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100
11	0	11	22	33	44	55	66	77	88	99	110
12	0	12	24	36	48	60	72	84	96	108	120
13	0	13	26	39	52	65	78	91	104	117	130
14	0	14	28	42	56	70	84	98	112	126	140
15	0	15	30	45	60	75	90	105	120	135	150
20	0	20	40	60	80	100	120	140	160	180	200
25	0	25	50	75	100	125	150	175	200	225	250
30	0	30	60	90	120	150	180	210	240	270	300
40	0	40	80	120	160	200	240	280	320	360	400
50	0	50	100	150	200	250	300	350	400	450	500