

0 \times **0** = **0**
1 \times **1** = **1**
2 \times **2** = **4**
3 \times **3** = **9**
4 \times **4** = **16**
5 \times **5** = **25**
6 \times **6** = **36**
7 \times **7** = **49**
8 \times **8** = **64**
9 \times **9** = **81**

If I know... then I also know...

The digit sum of multiples of 6 is 3, 6 or 9

All multiples of 6 are even numbers.

0 \times **10** = **0**
1 \times **10** = **10**
2 \times **10** = **20**
3 \times **10** = **30**
4 \times **10** = **40**
5 \times **10** = **50**
6 \times **10** = **60**
7 \times **10** = **70**
8 \times **10** = **80**
9 \times **10** = **90**

The digit sum of multiples of 9 is 9

An odd number multiplied by 9 gives an odd product.

An odd number multiplied by 7 gives an odd product.

An even number multiplied by 7 gives an even product.

$64 \times 0 = 0$
 The product of a number and zero is zero.

$64 \times 1 = 64$
 The product of a number and 1 is the number itself.

$64 \div 1 = 64$
 The quotient when dividing a number by 1 is the number itself.

0 \times **11** = **0**
1 \times **11** = **11**
2 \times **11** = **22**
3 \times **11** = **33**
4 \times **11** = **44**
5 \times **11** = **55**
6 \times **11** = **66**
7 \times **11** = **77**
8 \times **11** = **88**
9 \times **11** = **99**

If I know... then I also know...

If the digits are the same then a 2-digit number is divisible by 11

An odd number multiplied by 11 gives an odd product.

0 \times **12** = **0**
1 \times **12** = **12**
2 \times **12** = **24**
3 \times **12** = **36**
4 \times **12** = **48**
5 \times **12** = **60**
6 \times **12** = **72**
7 \times **12** = **84**
8 \times **12** = **96**
9 \times **12** = **108**

A number is divisible by 12 if it is divisible by 3 and 4

All multiples of 12 are even numbers.

$12 \times 6 = 72$
 $6 \times 12 = 72$
 $72 \div 12 = 6$
 $72 \div 6 = 12$
 $6 = 72 \div 12$
 $12 = 72 \div 6$

$5 \times 2 \times 6 = 60 = 6 \times 2 \times 5$

$5 \times 2 \times 6 = 60 = 5 \times 12$
 $5 \times 2 \times 6 = 60 = 2 \times 30$
 $5 \times 2 \times 6 = 60 = 60$

If I know... then I also know...

100s 10s 1s

300

$252 \div 6 = 42$
 $= 240 \div 6 + 12 \div 6$
 $= 40 + 2$
 $= 42$

If I know $24 \div 6 = 4$ then I also know $240 \div 6 = 40$

30 is ten times smaller than 300
 20 divided by ten is 2

divisor
 dividend
 quotient
 remainder

$426 \div 3 = 142$

100s 10s 1s

400

100s 10s 1s

320

$320 \div 4 = 80$

If I know $24 \div 4 = 6$ then I know $240 \div 4 = 60$

$52 \div 4 = 13$
 $= 40 \div 4 + 12 \div 4$
 $= 10 + 3$
 $= 13$

I know that 40 is 10 groups of 4

$30 \div 10 = 3$

If I know $24 \div 4 = 6$ then I know $25 \div 4 = 6 \text{ r } 1$

0 \times **3** = **0**
1 \times **3** = **3**
2 \times **3** = **6**
3 \times **3** = **9**
4 \times **3** = **12**
5 \times **3** = **15**
6 \times **3** = **18**
7 \times **3** = **21**
8 \times **3** = **24**
9 \times **3** = **27**

If I know... then I also know...

The digit sum of multiples of 3 is 3, 6 or 9

An odd number multiplied by 3 gives an odd product.

0 \times **4** = **0**
1 \times **4** = **4**
2 \times **4** = **8**
3 \times **4** = **12**
4 \times **4** = **16**
5 \times **4** = **20**
6 \times **4** = **24**
7 \times **4** = **28**
8 \times **4** = **32**
9 \times **4** = **36**

All multiples of 4 are even numbers.

There is a repeating pattern in the ones column: 0, 4, 8, 2, 6

0 \times **8** = **0**
1 \times **8** = **8**
2 \times **8** = **16**
3 \times **8** = **24**
4 \times **8** = **32**
5 \times **8** = **40**
6 \times **8** = **48**
7 \times **8** = **56**
8 \times **8** = **64**
9 \times **8** = **72**

All multiples of 8 are even numbers.

All multiples of 8 are also multiples of 2 and 4

Half of 6 is 3
 6 shared equally into 2 groups is 3 in each group

12 divided equally into 3 groups is 4 in each group

The groups are equal

12 divided equally into groups of 3 is 4 groups

There are four 3s in twelve

$6 \div 2 = 3$
 $12 \div 3 = 4$
 $12 \div 4 = 3$

$9423 \div 3 = 3141$

1000s 100s 10s 1s

9000 400 20 3

divisor
 dividend
 quotient
 remainder

If I know... then I also know... because...

$056r1$
 63437

If I know... then I also know... because.

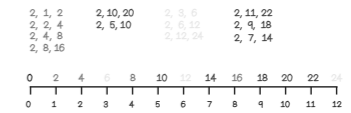
$08 \times 7 = 8 \times 7 = 10$
 $42 \times 5 = 42 - 2$
 $56,000 \div 80 = 700$

$2427 \times 38 = 92226$

$24 \overline{) 33939} = 1413 \text{ r } 3$

$24 \overline{) 3391000} = 14129 \text{ r } 5$

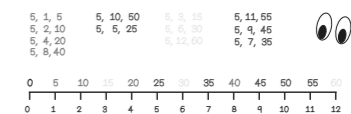
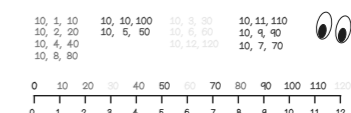
$3391 \div 24 = 139 \text{ r } 3 = 139 \frac{3}{24} = 139.125$



$2 \times 5 = 10$
 $10 \div 2 = 5$
 $5 \times 10 = 50$
 $50 \div 5 = 10$

$5 \times 2 = 10$
 $10 \div 5 = 2$
 $10 \times 5 = 50$
 $50 \div 10 = 5$

If I know... then I also know...



0 \times **10** = **0**
1 \times **10** = **10**
2 \times **10** = **20**
3 \times **10** = **30**
4 \times **10** = **40**
5 \times **10** = **50**

The digit sum of multiples of 10 is 0

