

$\times 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad \dots \quad \infty \checkmark$   
 $\times 1 \quad 2 \quad 3 \quad 4 \quad \dots \quad \infty \checkmark$   
 $\times 2 \quad 3 \quad 4 \quad \dots \quad \infty \checkmark$   
 $\times 3 \quad 4 \quad \dots \quad \infty \checkmark$   
 $\times 4 \quad \dots \quad \infty \checkmark$   
 $\times \dots \quad \infty \checkmark$

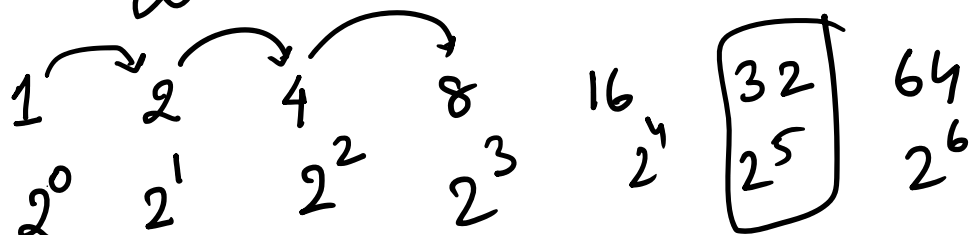
A) 1st    B) 2nd    C) 3rd    D) Ad hoc Search

$\infty + \infty = 2\infty \rightarrow \infty$

$\infty \rightarrow$  very very large number

$\infty - \infty = 0$  Not always  
 $= \infty$   
 $=$  small finite number

$\infty^\infty \rightarrow$  large number  $\rightarrow \infty$   
 $\frac{1}{\infty} \rightarrow 0$  (Almost zero)



$\frac{1024}{32}$   


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67

$2^{15} \rightarrow 2^{10} \cdot 2^5$   
 $\rightarrow 1024 \cdot 32$

$\frac{32}{32}$   
 $\frac{1024}{1}$

67  
23

36  
21

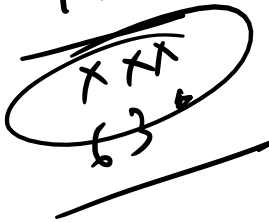
6



1833

A heart breaker  
on multiplication  
short cut.

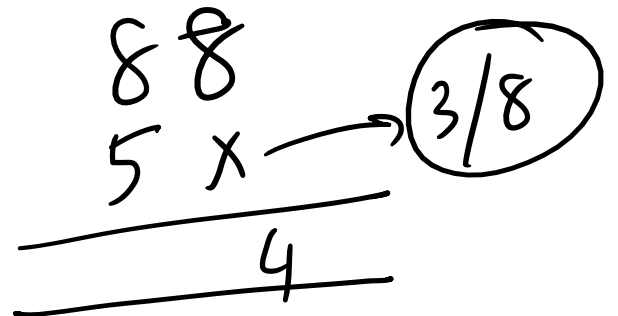
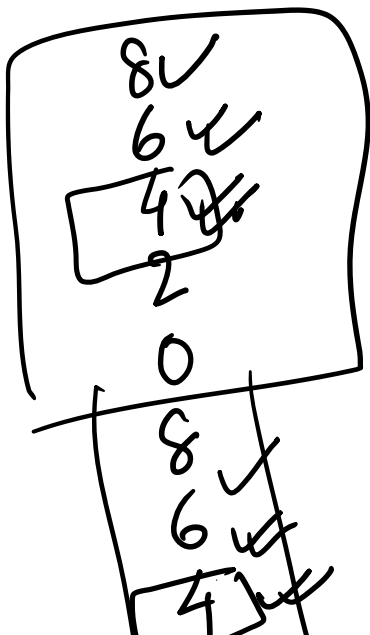
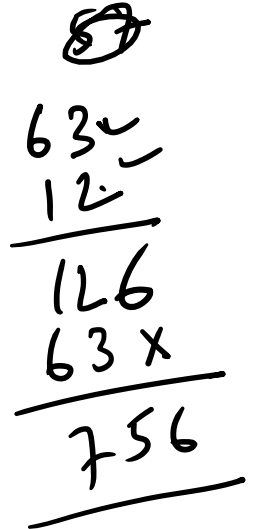
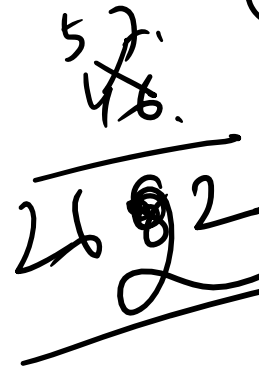
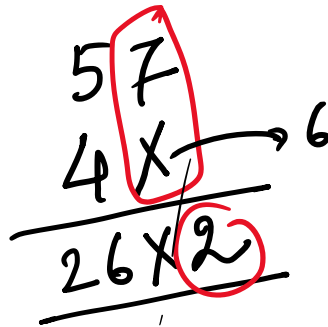
63  
1x

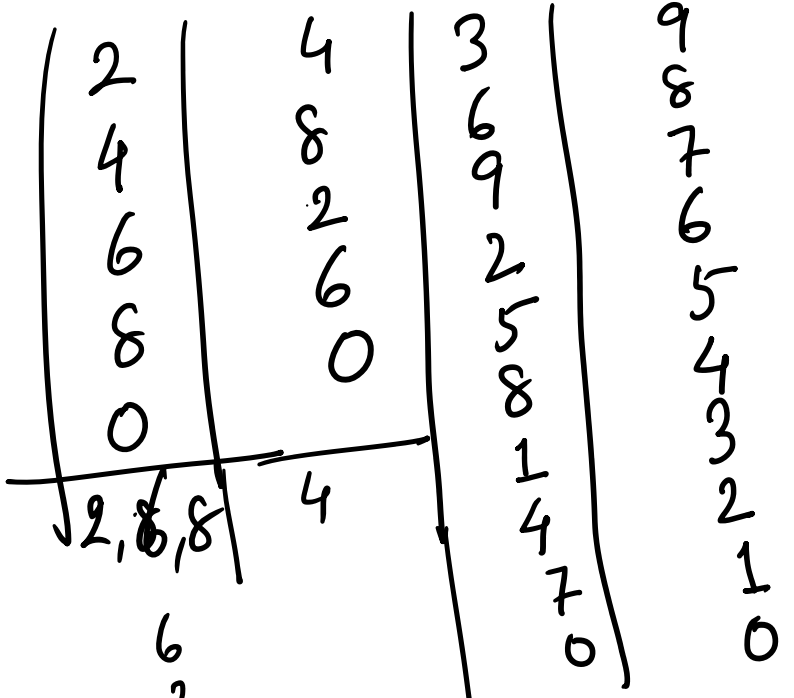
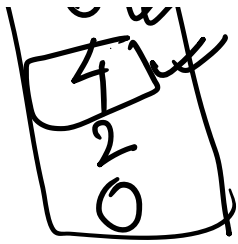


Simple Noodles

- 7
- 14
- 21
- 28
- 35
- 42
- 49
- 56
- 63
- 70

- (1,2)
- (6,4)
- (6,6)
- (4,3)



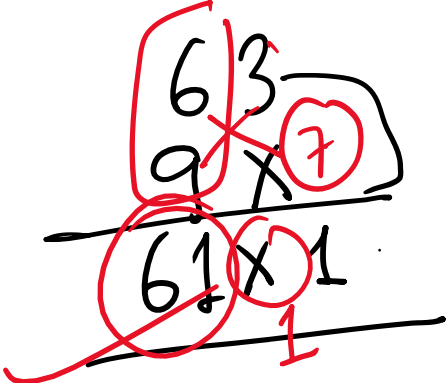


2, 4, 6, 8 ✓

3, 7, 9 ✓

1, 5, 0 ✓

$$\begin{array}{r} 42 \\ 27 \\ \hline 69 \end{array}$$



$3 \times 7 = 21$

②

⑦

5  
5  
5

5

5555



-----5

6x6 = 36  
x6

~~216~~  
~~6~~  
6

666666



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|||||



①

5000 times

999

9  
9  
9

→ 2

→ 1

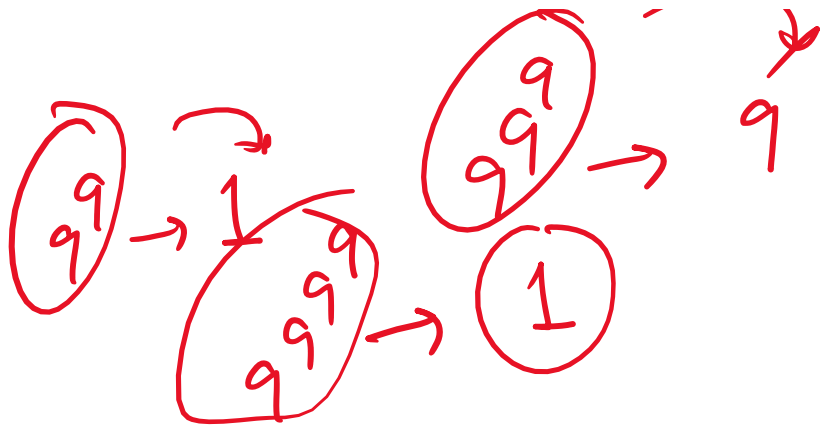
~~99~~

81  
9  
729  
9

9

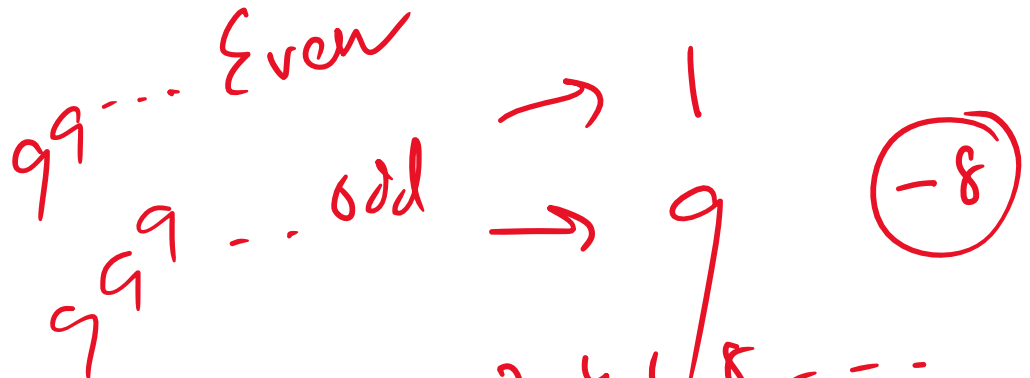


2 3



$$2^2 \dots$$

$$2^{2 \times 3}$$



- Even  $\rightarrow$  2, 4, 6, 8, ...
- odd  $\rightarrow$  1, 3, 5, 7, ...

(continued)

Prime

2, 3, 5, 7

13

-13

13  $\rightarrow$  1/13

(1)  $\frac{1}{(-13)}$

$\frac{(-1)}{(13)}$

$$\begin{aligned}
 9^1 &= 9 \\
 9^2 &= 81 \\
 9^3 &= 729 \\
 9^4 &= 1
 \end{aligned}$$

123456789

987654321 → odd

~~9~~

9<sup>21</sup> 9 odd → 9

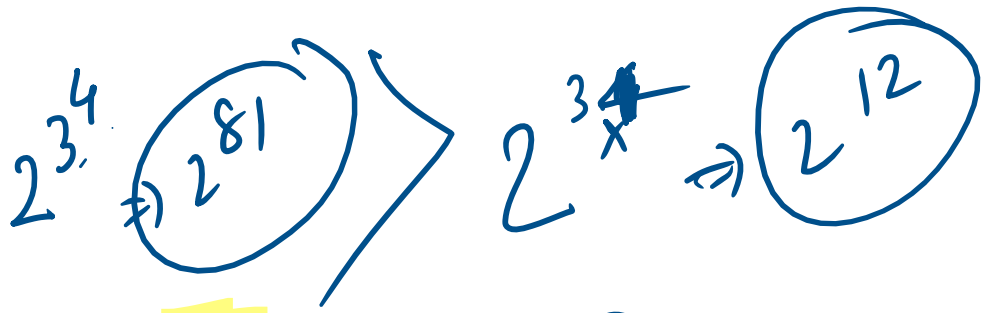
0/1/9

$$2^{\textcircled{3}} = 2^{2 \times 3} = 2^6$$

~~2^8~~

$a^b c$

$a^{b \cdot c}$



Cigarette  
 Cigarette  
 cigarette  
 Cigarette

Balloon  
 Baloon  
 Ballon  
none

SRH vs LSH

190 / 0

9.5 overs

RR

10  $\frac{190}{9.5}$

190  $\rightarrow$  10  
 $\frac{190}{10} \rightarrow 19$

6 balls  $\rightarrow$  100%  
 1 Ball  $\rightarrow$  100  
 5 Balls  $\rightarrow$   $\frac{100 \times 5}{6}$

9.6 9.7 9.8  
 $\frac{500}{6}$   
 83%

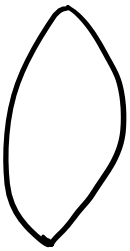
$$\left( \frac{1}{6} \right) \rightarrow (83\%)$$

$$\frac{190}{9.83}$$

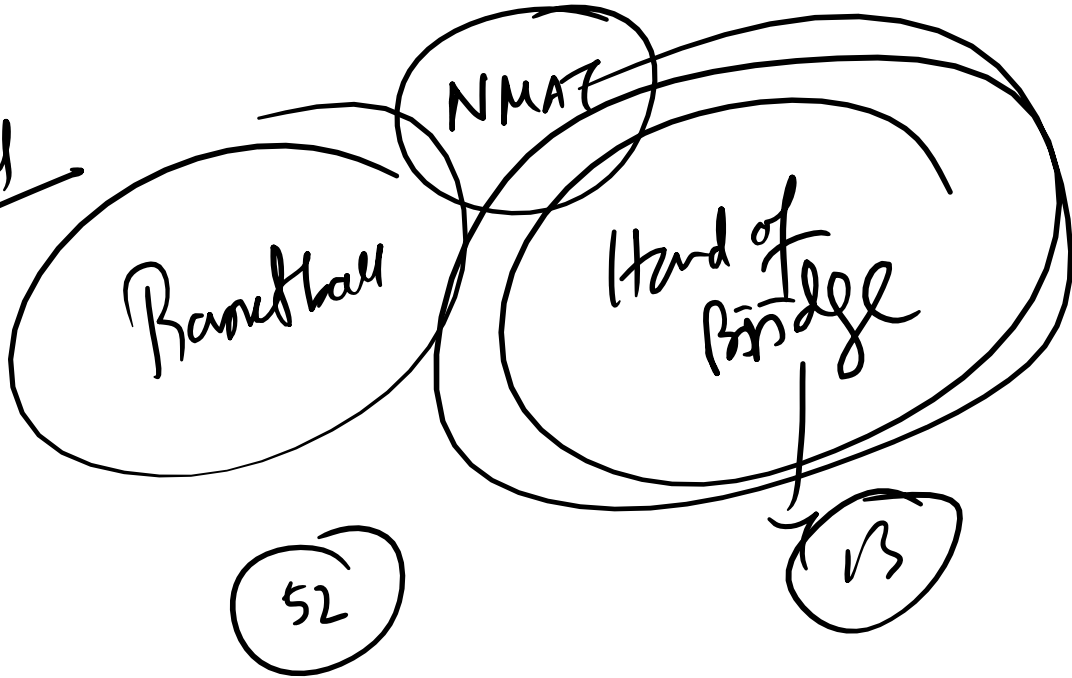
$$\frac{100}{6} \rightarrow 16.67\%$$

- 1  $\rightarrow$  16.67%
- 2  $\rightarrow$  83.2%
- 3  $\rightarrow$  4.8%

- 4  $\rightarrow$  54
- 5  $\rightarrow$  280
- 6  $\rightarrow$  96%



Football



1

Even

2, 4, 6, 8, 10

$\times 4$

(Ace)





Ace



7 7  
20



face card  
12