Bizarre Arithmetic
ANSWER: THUNDER
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71086.

				C	A	T	E	R
?				G	N	A	T	
			C	A	T	E	R	
		H	E	E	E	O		
	T	H	G	G	C	O		
?	S	C	A	H	R			
	H	C	N	T	S	S	E	R

- Look at second column, O=0
- Look at the first row of multiplication. In order for it to be the same as the first original number, T=1
- You know that E+1=S from the third column
- Since the units digit is always R or 0, and R is whats multiplied, you know that its equal to either 5 or 6
- You know that 10+C mod10 =C, so from the 7th column you can see that a 1 or 2 has to be carried over, making H either 9 or 8
- You also know that that 2+S=H from the 8th column, and its less than 10 since there is no 9th column
- This makes S either 6 or 7, and E 5 or 6.
- But since R is also either 5 or 6 and E+1=S, that means R=5, E=6 and S=7
- That means H=9
- You know that G+C+6+9 mod10=1, or that G+C=5
- You know that C+A+6+5 mod10=7, or that C+A=6
- A+1=G
- The only consecutive letters left are 2, 3, 4
- Use logic and those two equations to find C=2, B=3, A=4
- Final word is STONE

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?									
					M	E	O	W	S
?						Z	I	N	C
				S	A	O	A	C	C
			O	E	A	N	M	N	
		W	A	A	E	I	I		
?	S	M	S	N	N	I			
	M	A	C	W	C	N	N	A	C

- There are 2 ways for xy mod10=x
  - Either x or y is 5 and the other number is odd. This can only get a units digit of 5.
  - Either x or y is 6 and the other number is even. This can go to any even number.
- Because the units digit is the same for I, N and C when multiplied with S, you know that S=6 and that I, N and C are even numbers. Z is odd.
- At the 8th column, there must be a 1 carried over from the 7th, so M=7
- Because C and N are even and C+N=A, A is also even
- Because N, A and I are even, A+M+I=N isn't possible without a 1 being carried over. This means C+N>10
- The biggest number you can get by adding 2 different even numbers is 14, so A is either 0, 2, or 4.
- N cannot be 0
- W and M are both odd and A is even, so W+M=A and there is no 1 carried over.
- O+A+S<9 since there is guaranteed to be at least a 1 carried over from S+E+A+N
- That becomes O+A<3. Since O is odd and A is even, the only answer is O=1 and A=0
- We know then that C=8, since it is even.
- Since 8+N=10, N=2
- The numbers left are 3,4,5,9. E, Z and W are odd and I is even, so I=4.
- S+E+A+N mod 10 =W becomes 6+E+0+2=W, or 8+E=W. This is only possible if there is an even number carried over from 1+A+A+E+N=C, which is just E+2=7.
- Therefore E=5 and W=3
- Then Z=9
- Final word is OCEAN

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					G	L	Y	P	H
?						H	A	Z	Y
				A	P	I	Y	G	E
			P	H	I	E	L	Z	
		L	L	A	E	H	A		
?	Y	E	P	E	W	H			
	Y	L	H	Y	W	E	L	E	E

- There are 2 ways for xy mod10=x
  - Either x or y is 5 and the other number is odd. This can only get a units digit of 5.
  - Either x or y is 6 and the other number is even. This can go to any even number.
- H=6, and A and Z are even. Y is odd
- L+E=L, so E=0. L+E<10 because it doesn't carry a 1 over.
- In order for 6*Y to have a units place of 0 with Y being non-zero, Y=5
- Y+L+A+1=L since G+Z=10, so Y+A+1=10 so A=4
- From 1+I+E+H+H=E, or 1+I+0+6+6 mod10=0, or 3+I mod10=0, which means I=7
- You know that since G and Z are even, and G+Z=10, they are 8 and 2, but you don't know which is which
- You know from I+E+H+H+1, which is now 7+0+6+6+1=20, that there's a 2 carried over to the next column
- 2+P+I+E+W mod 10=W so 2+P+I mod 10 =0, so P=1
- 1+P+L+P=H, which only works if both P and L are odd. You know that its less than 10 since nothing carries over, so L=3.
- The only odd letter left is W, so W=9
- At this point you should be able to get the word HIGHWAY.

STONE OCEAN HIGHWAY => HIGHWAY TO HELL => stand of **THUNDER** mcqueen