Sums. The're Math Magic

24 – Letter Sums

Please go through each slide stopping until you have understood the concept described

Sums. The're Math Magic

24 – Letter Sums

Beach

	SUN
	FUN
Add	--------
	SWIM

The numbers you can use are 0,1,2,3,6,7 or 9.

You may not use 4,5 or 8

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24 – Letter Sums

Beach

	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

The solution is:

Remember, if the units add up to more than 10 then 1 is carried forward to the ten's column.

S+F=SW ∴ S must be 1

(Remember ∴ means Therefore)

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Beach

	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

W must be 0 or 1 because, if there was 1 to carry forward to the hundreds column then W would be 1

But S is already 1 so W cannot be 1. ∴ W=0. And F=8 or 9 but 8 is not allowed.

∴ F=9

Also there is no 10 to carry forward from the ten's column.

Numbers not yet used are 0,2,3,6,7

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24 – Letter Sums

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	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

Numbers not yet used are 0,2,3,6,7

N+N = M so M is an even number.

If N=2 then M=4 which is not allowed because 4 is not to be used.

If N=3 then M=6.

If N=4 then M=8 which is not allowed because 4 and 8 are not to be used.

N cannot be 5.

If N=6 then M=2,

If N=7 then M=4 which is not allowed.

If N=9 then M=8 which is not allowed.

∴ N can only be 3 or 6, and M can only be 6 or 2

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Beach

	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

Numbers not yet used are 0,2,3,6,7

U+U = I but there may be 10 to carry forward from the unit's column.

If U=2 then I=4 or 5 which is not allowed. So U cannot be 2

If U=3 then I=6 or 7.

If U>4 there is ten to carry forward which is not allowed,

∴ U is 2 or 3 and I is 5 or 7 but 5 is not allowed.

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Beach

	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

N can only be 3 or 6, and M can only be 6 or 2
U is 2 or 3 and I is 5 or 7

Try N=3.

	SUN	1U3
	FUN	9U3
Add	-------	------
	SWIM	10I6

the I is the letter.

If U=2 then I=4 not allowed

But U cannot be 3 if N is 3

So N cannot be 3

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Beach

	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

Numbers not yet used are 0,2,3,6,7

N can only be 3 or 6, and M can only be 6 or 2
U is 2 or 3 and I is 5 or 7

Try N=6.

	SUN	1U6
	FUN	9U6
Add	-------	------
	SWIM	10I2

the I is the letter.

U cannot also be 2 because M would be 2

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	SUN	136
	FUN	936
Add	-------	------
	SWIM	1072

Numbers not yet used are 0,2,3,6,7

N can only be 3 or 6, and M can only be 6 or 2
U is 2 or 3 and I is 5 or 7

Try U=3

I = 7 because there is 10 carried forward from the unit's column.

So S=1, F=9, U=3, I=7,N=6 and W=0

Sums. The're Math Magic

24 – Letter Sums

The XXX Question

Here each X can be any number from 0 to 9

XXXXXX ÷ XXX = 7XX

It helps if you rewrite the equation as

```
        7XX
XXX | XXXXXX
```

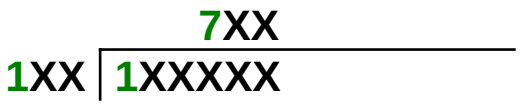
```
 XXX
 ---
  7XX
  XXX
 ---
   No
Remainder
```

Sums. The're Math Magic

24 – Letter Sums

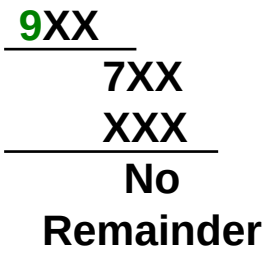
The XXX Question

XXXXXX ÷ XXX = 7XX



The first digit of the divisor XXX must be 1

∴ XXXXXX is 1XXXXX and 7 x 1XX = 9XX



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The XXX Question

XXXXXX ÷ XXX = 7XX

Using 7 x 1XX = 9XX – 7 (the 7 left over)

9XX must be more than 990

So 1XX must be 142 and 7 x 1XX = 994

because 7 X 143 = 1001 which is too large

and 7 x 141 = 987 which is too small

```
      7XX
142 | 1XXXXX
```

994

7XX

XXX

No Remainder

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Sums. The're Math Magic

24 – Letter Sums

The XXX Question

XXXXXX ÷ XXX = 7XX

$$
\begin{array}{r|l}
 & 7XX \\
\hline
142 & 1001XX
\end{array}
$$

Now 4 from 11 = 7 and ∴ 1XXX is 1001

994

7XX

XXX

No Remainder

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The XXX Question

XXXXXX ÷ XXX = 7XX

We now need a number X where X x 142 is greater than 700

The only X that works is 5 x 142 = 710

5 x 142 = 700 because 6 x 142 = 852

```
      705
142 | 1001710
      994
      710
      710
      ---
       No
    Remainder
```

Sum Trigx

What is Sin Q ÷ Cos Q ?

Tan Q

You are welcome.

THANK YOU

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Please go to the next lesson.

More Geometric Sums

The Job Advert

Evening Chronicle

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£45,000 - £50,000
Call 0209 123 987

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