

Maths

# **Independent Task**

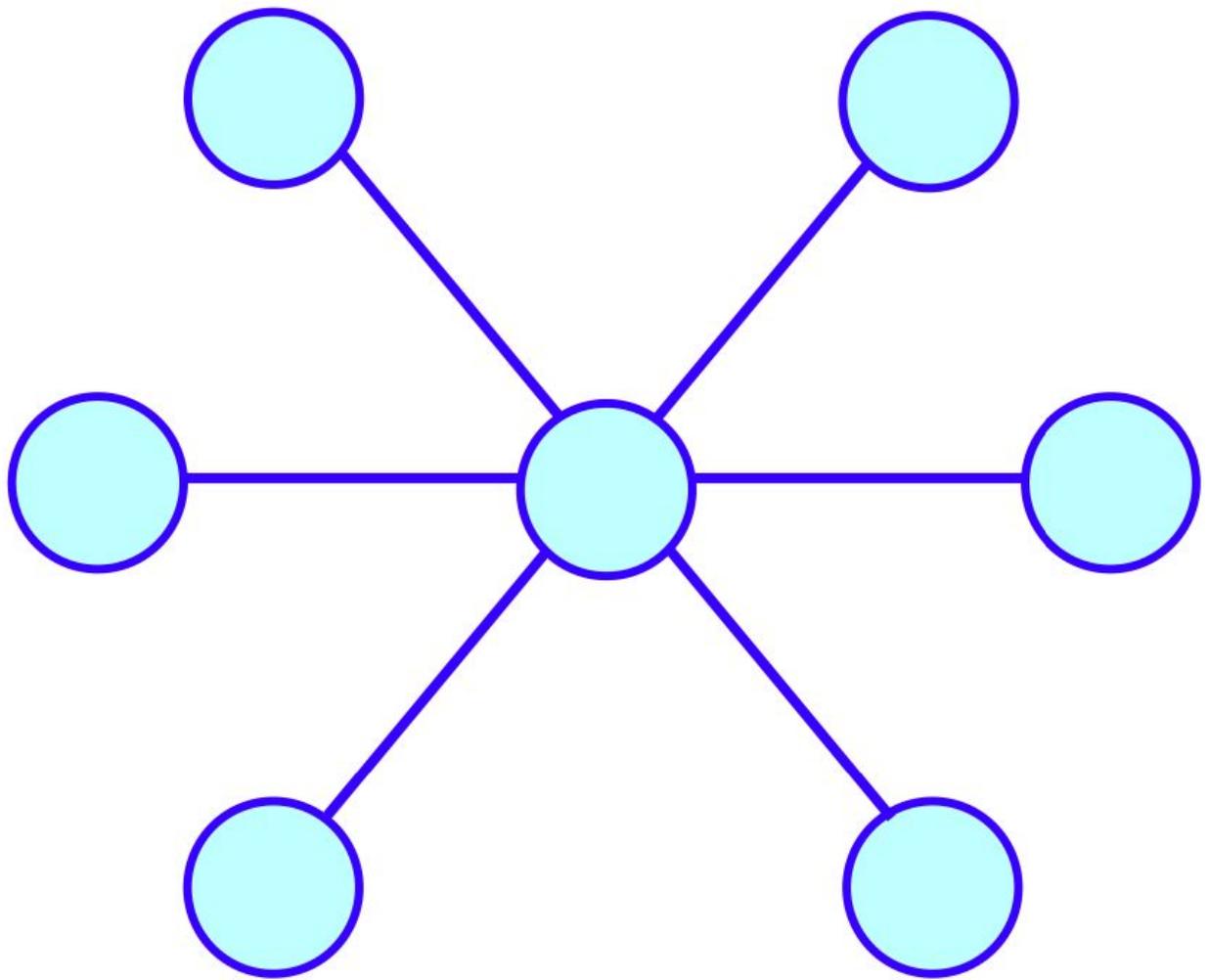
## **To investigate number patterns**

Mr Critchlow



## To Start

Can you fit the numbers:  
1, 2, 3, 4, 5, 6 and 7 into the  
circles so that each 3  
circles joined by lines have  
the same total?



## Moving On

What is the rule for each of the sequences? It could be add, subtract, multiply or divide.

Term 1	Term 2	Term 3	Term 4	Term 5	Rule
3	6	12	24	48	
640	320	160	80	40	
0.4	0.8	1.6	3.2	6.4	
20	10	0	-10	-20	
3770	4270	4770	5270	5770	



# Main Task

You will be creating and exploring your own number sequences.

1. Choose a STARTING NUMBER (Eg: 7).
2. Decide which OPERATION to do first [ $+$ ,  $-$ ,  $\times$  or  $\div$ ] (eg  $\times$ ).
3. Decide what NUMBER to use with the operation you picked in step 2 (Eg 3).
4. Decide on a different OPERATION (Eg  $-$ ).
5. Decide what NUMBER to use with this operation (Eg 3).
6. Repeat with your last answer as the new starting numbers.

**RECORD THE FIRST 10 TERMS IN YOUR SEQUENCE.**

$$(7 \times 3) - 3 = \mathbf{18}$$

$$(18 \times 3) - 3 = \mathbf{51}$$

$$(51 \times 3) - 3 = \mathbf{150}$$



# Main Task

Write out the sequence and then make as many statements as you can about the numbers in the sequence.

Term 1	
Term 2	
Term 3	
Term 4	
Term 5	
Term 6	
Term 7	
Term 8	
Term 9	
Term 10	

What I notice about my sequence.



# Challenge

Can you write 4 of your own sequences containing these numbers?



**-3 and 1**

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**3.4 and 2.9**

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