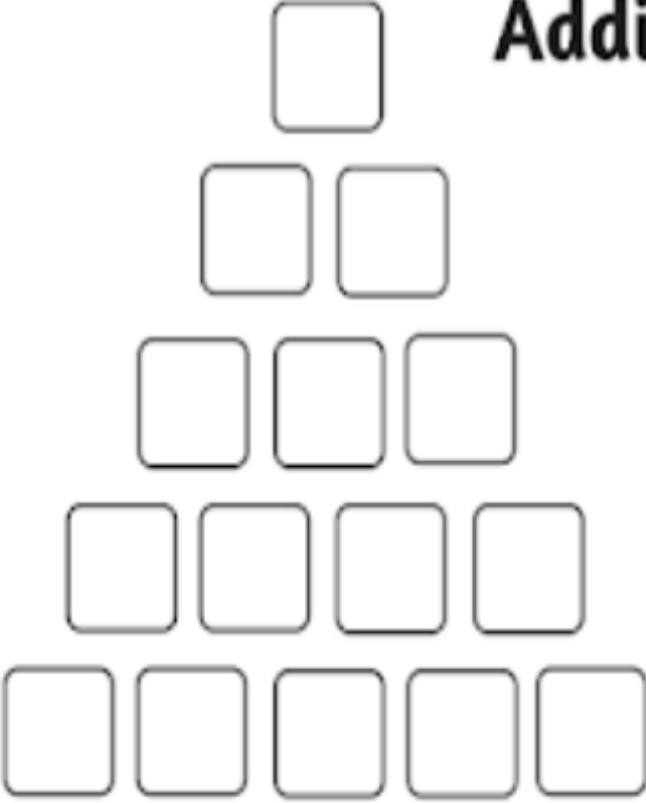


Number Challenges

Can you work through the different levels to be a number master?

Level 1 - Addition pyramids



A pyramid of empty boxes. The top row has 1 box. The second row has 2 boxes. The third row has 3 boxes. The fourth row has 4 boxes. The bottom row has 5 boxes.

Addition Pyramid

1. Write the numbers 1 - 5 in the bottom row.
2. Fill in the rest of the boxes by adding the two numbers below each box.
3. Now try putting 1 - 5 in a different order in the bottom row.
4. What order will give the highest value at the top? Why?

Level 2 - Consecutive Chains

Don't forget consecutive numbers are numbers that are next to each other e.g. 1, 2, 3 and 4 are consecutive.






































consecutive chains

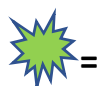
Use the clues to find sets of increasing consecutive numbers. All numbers used are less than 100.

| | |
|--|---|
| <p>A</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>prime cube number square number factor of 60</i></p> | <p>H</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>square number not prime cube number not prime</i></p> |
| <p>B</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>prime prime square number prime</i></p> | <p>I</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>not prime not prime not prime square number</i></p> |
| <p>C</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>factor of 36 prime multiple of 10 multiple of 3</i></p> | <p>J</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 10px;"></div><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px;"></div></div> <p style="text-align: center; margin-top: 5px;"><i>multiple of 2 & 11 prime multiple of 5 not prime</i></p> |

Level 3 - Shape Time Shape

The coloured shapes stand for eleven of the numbers from 0 to 12. Each shape represents a different number. Can you work out which is which?

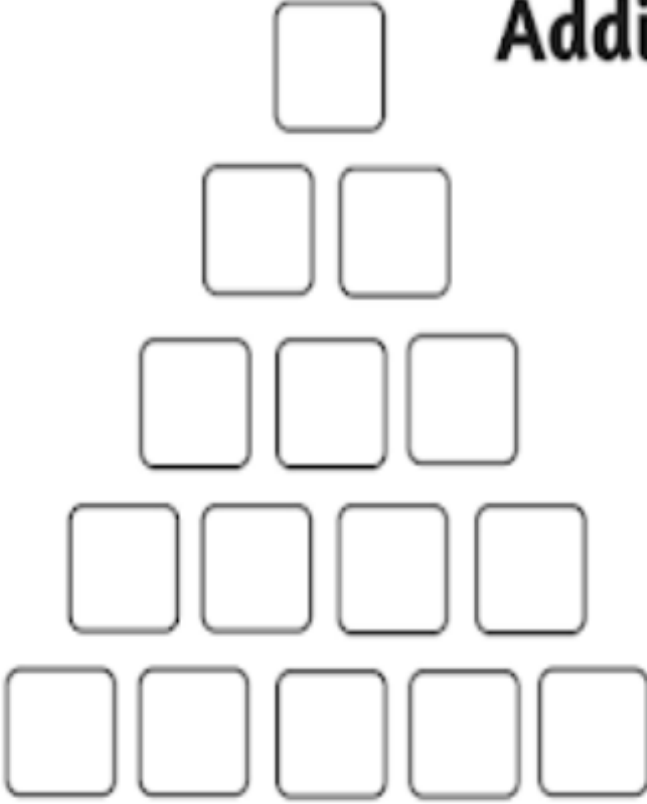
| | |
|---|---|
|  X  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |



Answers

Level 1 - Addition pyramids

Answers will vary



The diagram shows an addition pyramid with five rows of boxes. The top row has one box. The second row has two boxes. The third row has three boxes. The fourth row has four boxes. The fifth row has five boxes. Each box in a row is positioned directly below the two boxes in the row above it, forming a triangular shape.

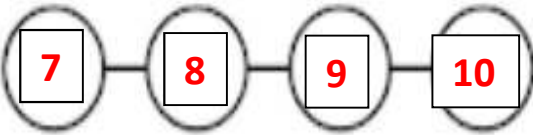
Addition Pyramid

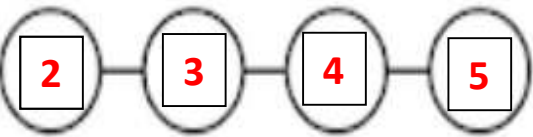
1. Write the numbers 1 - 5 in the bottom row.
2. Fill in the rest of the boxes by adding the two numbers below each box.
3. Now try putting 1 - 5 in a different order in the bottom row.
4. What order will give the highest value at the top? Why?

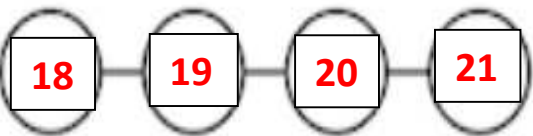
Level 2 - Consecutive Chains

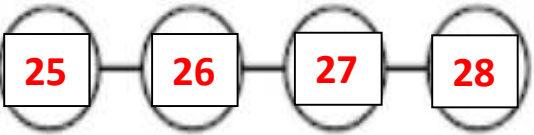
Don't forget consecutive numbers are numbers that are next to each other e.g. 1, 2, 3 and 4 are consecutive.

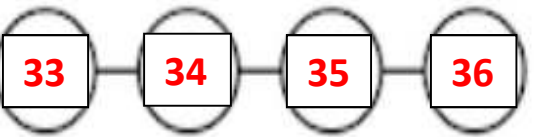
consecutive chains Use the clues to find sets of increasing consecutive numbers. All numbers used are less than 100.

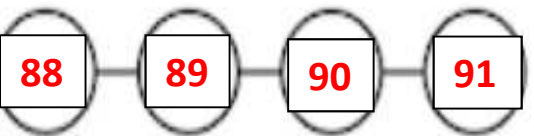
A 
prime cube number square number factor of 60

B 
prime prime square number prime

C 
factor of 36 prime multiple of 10 multiple of 3






































H 
square number not prime cube number not prime












I 
not prime not prime not prime square number

J 
multiple of 2 & 11 prime multiple of 5 not prime

Level 3 - Shape Time Shape

The coloured shapes stand for eleven of the numbers from 0 to 12. Each shape represents a different number. Can you work out which is which?

| | |
|---|---|
|  X  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |
|  X  =  |  X  =  |

| | | | | |
|---|---|--|--|---|
|  = 2 |  = 4 |  = 12 |  = 1 |  = 0 |
|  = 8 |  = 3 |  = 6 |  = 10 |  = 5 |
|  = 9 | | | | |