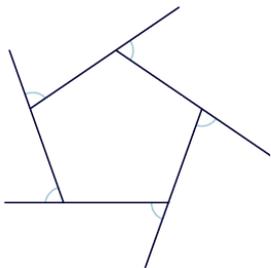
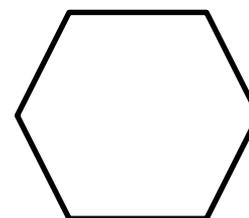


Senior Team Mathematics Challenge

Glossary of Terms

- Consecutive** The next number in order. For example, 12 and 13 are consecutive whole numbers, which can be written algebraically as a and $a+1$.
- Cube Number** Any number that is the cube of a whole number, not including 0.
These are 1, 8, 27, 64, 125, 216,...
- Difference** The difference between two numbers is the number you get when you subtract one from the other, ignoring the minus sign if you get a negative answer. For example the difference between 11 and 14 is 3.
- Digit Product** The number you get when you multiply all the digits of a number.
For example the digit product of 934 is $9 \times 3 \times 4 = 108$
- Digit Sum** The number you get when you add together all the digits of a number.
For example the digit sum of 934 is $9 + 3 + 4 = 16$.
- Divisible** This word is used to describe when a whole number divides exactly into another, e.g. 27 is divisible by 9.
- Exterior Angle** The angles marked in the diagram below show the exterior angle of a regular pentagon.
The total exterior angle = 360° .
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- Factor** A number which divides exactly into another number.
For example, 6 is a factor of 18.
- Fibonacci number** The Fibonacci sequence is 1, 1, 2, 3, 5, 8, 13, 21, 34,....
Each number is the previous two in the list added together.
A Fibonacci number is any number in this list.
- Highest Common Factor (HCF)** When you have two numbers, this is the largest whole number which divides exactly into both of them.
For example 5 is the highest common factor of 15 and 10.

Integer	A whole number, positive or negative.
Lowest Common Multiple (LCM)	When you have two numbers, this is the lowest number that is multiple of both numbers. For example, the LCM for 12 and 18 is 36.
Mean	The mean of a list of numbers is just their ordinary average. For example the mean of 3, 5, and 6 is $4\frac{2}{3}$.
Palindrome	A number which reads the same if you reverse its digits, e.g. 23432.
Polygon	A shape with straight sides.
Prime Number	A number which only has 2 factors, 1 and itself. For example, 2, 3, 5, 7, 11, 13, 17, 19, . . .
Prime factor	A prime number which divides exactly into your number. For example 5 is a prime factor of 15 (and so is 3).
Regular Polygon	A shape with equal length straight sides and all interior angles equal. For example a regular hexagon looks like this.



Remainder	What is 'left over' when a whole number is divided into another, e.g. the remainder when dividing 22 by 5 is 2.
Square Number	Any number that is the square of a whole number, not including 0. These are 1, 4, 9, 16, 25, 36,...
Triangle Number	The first four triangle numbers are 1, 3, 6, 10 as in the diagrams below. The next one is 15 as you can see by imagining another row of 5 dots under the diagram on the right. So the triangle numbers are 1, 3, 6, 10, 15, 21, 28, . . .

