

# POWERFUL NUMBERS

<https://aiminghigh.aimssec.ac.za/powerful-thinking-1/>

$$153 = 1^3 + 3^3 + 5^3$$

$$370 = 3^3 + 7^3 + 0^3$$

$$371 = 3^3 + 7^3 + 1^3$$

$$407 = 4^3 + 0^3 + 7^3$$

$$1634 = 1^4 + 6^4 + 3^4 + 4^4$$

$$4150 =$$

$$4151 = 4^5 + 1^5 + 5^5 + 1^5$$

$$8208 =$$

$$9474 =$$

$$54748 =$$

In a POWERFUL NUMBER the sum of the same power of all the digits is equal to the number.

Show that

4150, 8208, 9474 and 54748 are all powerful numbers.

What about 912, 985 and 153?

