Roll These Dice – Year 4 Answers

* I have found out that all the different possible answers are between -4 and 11 including 11 and -4. It is not possible to get any answers over 11 and below -4.
I recorded all of this data in a table.
* I have found out that if all 3 dice are the same the total will become the value of one of the die (Eg. $1+1=2-1=1$).
* this would be the same conclusion as above if any 2 of the die were the same. (E.g. $2+1=3-1=2$)
* I know there is a $50/50$ chance of the answer being odd or even because;
odd + odd - odd = odd
even + even - even = even
odd + even - odd = even
odd + odd - even = even
even + even - odd = odd
odd + even - even = odd
These are all the possible ways of adding the dice.

Indeed Molly it is very good and I am impressed that you did this and came to those conclusions. You could of course extend the exploration by wondering about using 4 dice and deciding whether to subtract just 1 of those or maybe 2.

There are four of us so two of us wrote ALL of the combinations down [one from $6+6-1$ and one from $1+1-6$]. There were 216 possible calculations. At the same time the other two of us worked out which is the most likely answer[which is 4]. Once we did that we were done.

There are 225 ways and your answer is the numbers 3 and 4. By finding all the 225 calculations you then make a tally chart to show the most popular number. Finally you count up the number and then your answer should be 3 and 4.

There is a higher probability to get 6 than 2 eg. there are fewer ways to get 2 because there are 13:

$1+2-1=2$, $1+3-2=2$, $1+4-3=2$, $1+5-4=2$, $1+6-5=2$, $2+3-3=2$, $2+4-4=2$, $2+5-5=2$, $2+6-6=2$, $3+3-4=2$, $3+4-5=2$, $3+5-6=2$, $4+4-6=2$

and for 6 there are:

$1+6-1=6$, $2+5-1=6$, $2+6-2=6$, $3+4-1=6$, $3+5-2=6$