

Age 10

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I called my 5 numbers a, b, c, d, e

I started by saying:

$$a+b=0 \quad a+c=2 \quad d+e=4 \quad b+c=4$$

$$a = -1$$

$$b = 1$$

We know that

$$c = 3$$

$$b+c=4$$

$$d = 7$$

$$\text{and } c-b=2$$

$$e = -3$$

$$\therefore b = 1$$

$$\therefore a = -1$$

$$\therefore c = 3$$

I then said that $a+d=6$

I can tell that this arrangement

$$\therefore d=7, e=-3$$

will not work because

$$c+e=0$$

I realise that these values are too small and ~~if~~ if I increase c the values will increase. I also realise that e cannot be negative. This means that d cannot be too big. I try out all the different values for c and d but nothing works. I then try another

approach.

$$\text{The sum of all of the numbers} = 4(a+b+c+d+e) = 72$$

$$\therefore a+b+c+d+e=18$$

I say:

$$a+c=0 \quad a+d=4 \quad c+b=4 \quad d+b=8$$

$$\therefore e=10$$

If e is 10 a must be 1/3/5, b must be 3/5/1, c must be -1/-3/-5

and d must be 5/1/3 ~~correspondingly~~ correspondingly.

When $a=1, b=3, c=-1, d=5, e=10,$

$$a+b=4 \quad b+c=2 \quad c+d=4 \quad d+e=15$$

$$a+c=0 \quad b+d=8 \quad c+e=9$$

$$a+d=6 \quad b+e=13$$

$$a+e=11$$

For this arrangement we can attain every value.

~~The~~ The numbers are -1, 1, 3, 5, 10