

Starting to explore 4 consecutive Numbers

TO FROM Yuk-Chiu DATE NO P.1

Consecutive definition:

$$a = a$$

$$b = a + 1$$

$$c = a + 2$$

$$d = a + 3$$

1. (a) $a + b + c + d = 130$

$$a + a + 1 + a + 2 + a + 3 = 130$$

$$4a + 6 = 130$$

$$a = \frac{130 - 6}{4}$$

$$a = 31$$

$$\therefore a = 31, b = 32, c = 33, d = 34$$

The four consecutive numbers are 31, 32, 33, 34.

(b) $a + b + c + d = -38$

$$a + a + 1 + a + 2 + a + 3 = -38$$

$$4a + 6 = -38$$

$$a = \frac{-38 - 6}{4}$$

$$a = -11$$

$$\therefore a = -11, b = -10, c = -9, d = -8$$

The four consecutive numbers are -11, -10, -9, -8

2. $a + b + c = 10 + d$

$$a + a + 1 + a + 2 = 10 + a + 3$$

$$3a + 3 = 13 + a$$

$$2a = 10$$

$$a = 5$$

$$\therefore a = 5, b = 6, c = 7, d = 8$$

The four numbers are 5, 6, 7, 8.

$$\begin{aligned} 3. & \quad (a+d) - (b+c) \\ & = (a+a+3) - (a+1+a+2) \\ & = 2a+3 - 2a-3 \\ & = 0 \end{aligned}$$

This is because $a+d = b+c$.

a is smaller than b by 1

d is bigger than c by 1

$\therefore a+d = b+c$, so $[(a+d) - (b+c)]$ is equal to 0.

$$\begin{aligned} 4. & \quad a+b+c-d \\ & = a+a+1+a+2-a-3 \\ & = 2a \end{aligned}$$

$\therefore (a+b+c-d)$ is double the value of a .