(iii) $(-5)+(-8)+(-11)+...+(-230)$

Common difference of the A.P. (d) = $a_2 - a_1$

$= -8-(-5)$

$= -8+5$

$= -3$

So here,

First term (a) = −5

Last term (l) = −230

Common difference (d) = −3

So, here the first step is to find the total number of terms. Let us take the number of terms as n.

Now, as we know,

$a_n = a+(n-1)d$

So, for the last term,

$$-230 = -5+(n-1)(-3)$$
$$-230 = -5-3n+3$$
$$-230+2 = -3n$$
$$\frac{-228}{-3} = n$$
$$n = 76$$

Now, using the formula for the sum of n terms, we get

$$S_n = \frac{76}{2}\left[2(-5)+(76-1)(-3)\right]$$
$$= 38\left[-10+(75)(-3)\right]$$
$$= 38(-10-225)$$
$$= 38(-235)$$
$$= -8930$$

Therefore, the sum of the A.P is $\boxed{S_n = -8930}$

(iv) $1+3+5+7...+199$

Common difference of the A.P. (d) = $a_2 - a_1$

$= 3-1$

$= 2$

So here,

First term (a) = 1

Last term (l) = 199

Common difference (d) = 2

So, here the first step is to find the total number of terms. Let us take the number of terms as n.

Now, as we know,

$a_n = a+(n-1)d$

So, for the last term,

$$199 = 1 + (n-1)2$$

$$199 = 1 + 2n - 2$$

$$199 + 1 = 2n$$

$$n = \frac{200}{2}$$

$$n = 100$$

Now, using the formula for the sum of *n* terms, we get

$$S_n = \frac{100}{2}\left[2(1) + (100-1)2\right]$$

$$= 50\left[2 + (99)2\right]$$

$$= 50(2 + 198)$$

On further simplification, we get,

$$S_n = 50(200)$$

$$= 10000$$

Therefore, the sum of the A.P is $\boxed{S_n = 10000}$

(v) $7 + 10\frac{1}{2} + 14 + \ldots + 84$

Common difference of the A.P is

(*d*) =

$$= 10\frac{1}{2} - 7$$

$$= \frac{21}{2} - 7$$

$$= \frac{21-14}{2}$$

$$= \frac{7}{2}$$

So here,

First term (*a*) = 7

Last term (*l*) = 84

Common difference (*d*) = $\frac{7}{2}$

So, here the first step is to find the total number of terms. Let us take the number of terms as *n*.

Now, as we know,

$$a_n = a + (n-1)d$$

So, for the last term,

$$84 = 7 + (n-1)\frac{7}{2}$$

$$84 = 7 + \frac{7n}{2} - \frac{7}{2}$$

$$84 = \frac{14-7}{2} + \frac{7n}{2}$$

$$84(2) = 7 + 7n$$

Further solving for n,

$$7n = 168 - 7$$

$$n = \frac{161}{7}$$

$$n = 23$$

Now, using the formula for the sum of n terms, we get

$$S_n = \frac{23}{2}\left[2(7) + (23-1)\frac{7}{2}\right]$$

$$= \frac{23}{2}\left[14 + (22)\frac{7}{2}\right]$$

$$= \frac{23}{2}(14 + 77)$$

$$= \frac{23}{2}(91)$$

On further simplification, we get,

$$S_n = \frac{2093}{2}$$

Therefore, the sum of the A.P is $\boxed{S_n = \frac{2093}{2}}$

(iv) $34 + 32 + 30 + \ldots + 10$

Common difference of the A.P. (d) = $a_2 - a_1$

$$= 32 - 34$$

$$= -2$$

So here,

First term (a) = 34

Last term (l) = 10

Common difference (d) = −2

So, here the first step is to find the total number of terms. Let us take the number of terms as n.

Now, as we know,

$$a_n = a + (n-1)d$$

So, for the last term,

$$10 = 34 + (n-1)(-2)$$

$$10 = 34 - 2n + 2$$

$$10 = 36 - 2n$$

$$10 - 36 = -2n$$

Further solving for n,

$$-2n = -26$$

$$n = \frac{-26}{-2}$$

$$n = 13$$

Now, using the formula for the sum of n terms, we get

$$S_n = \frac{13}{2}\left[2(34) + (13-1)(-2)\right]$$

$$= \frac{13}{2}\left[68 + (12)(-2)\right]$$

$$= \frac{13}{2}(68 - 24)$$

$=\frac{13}{2}(44)$

On further simplification, we get,

$S_n = 13(22)$

$= 286$

Therefore, the sum of the A.P is $\boxed{S_n = 286}$

(v) $25+28+31+...+100$

Common difference of the A.P. (d) = $a_2 - a_1$

$= 28 - 25$

$= 3$

So here,

First term (a) = 25

Last term (l) = 100

Common difference (d) = 3

So, here the first step is to find the total number of terms. Let us take the number of terms as n.

Now, as we know,

$a_n = a + (n-1)d$

So, for the last term,

$100 = 25 + (n-1)(3)$

$100 = 25 + 3n - 3$

$100 = 22 + 3n$

$100 - 22 = 3n$

Further solving for n,

$78 = 3n$

$n = \frac{78}{3}$

$n = 26$

Now, using the formula for the sum of n terms, we get

$$S_n = \frac{26}{2}\left[2(25) + (26-1)(3)\right]$$

$$= 13\left[50 + (25)(3)\right]$$

$$= 13(50 + 75)$$

$$= 13(125)$$

On further simplification, we get,

$S_n = 1625$

Therefore, the sum of the A.P is $\boxed{S_n = 1625}$.

*********** END **********