$$n=\frac{14}{2}$$
$$n=7$$

Therefore, for the given A.P $\boxed{n=7 \text{ and } a=-8}$

(iii) Here, we have an A.P. whose first term (a), sum of first n terms (S_n) and the number of terms (n) are given. We need to find common difference (d).

Here,

First term (a) = 3

Sum of n terms (S_n) = 192

Number of terms (n) = 8

So here we will find the value of n using the formula, $a_n=a+(n-1)d$

So, to find the common difference of this A.P., we use the following formula for the sum of n terms of an A.P

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

Where; a = first term for the given A.P.

d = common difference of the given A.P.

n = number of terms

So, using the formula for n = 8, we get,

$$S_8=\frac{8}{2}\left[2(3)+(8-1)(d)\right]$$
$$192=4\left[6+(7)(d)\right]$$
$$192=24+28d$$
$$28d=192-24$$

Further solving for d,

$$d=\frac{168}{28}$$
$$d=6$$

Therefore, the common difference of the given A.P. is $\boxed{d=6}$.

(iv) Here, we have an A.P. whose n^{th} term (a_n), sum of first n terms (S_n) and the number of terms (n) are given. We need to find first term (a).

Here,

Last term (a_9) = 28

Sum of n terms (S_n) = 144

Number of terms (n) = 9

Now,

$$a_9=a+8d$$
$$28=a+8d \qquad \ldots(1)$$

Also, using the following formula for the sum of n terms of an A.P

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

Where; a = first term for the given A.P.

d = common difference of the given A.P.

n = number of terms

So, using the formula for $n = 9$, we get,

$$S_8 = \frac{9}{2}\left[2a + (9-1)(d)\right]$$

$$144(2) = 9\left[2a + 8d\right]$$

$$288 = 18a + 72d \qquad \ldots(2)$$

Multiplying (1) by 9, we get

$$9a + 72d = 252 \qquad \ldots(3)$$

Further, subtracting (3) from (2), we get

$$9a = 36$$

$$a = \frac{36}{9}$$

$$a = 4$$

Therefore, the first term of the given A.P. is $\boxed{a = 4}$.

(v) Here, we have an A.P. whose n^{th} term (a_n), sum of first n terms (S_n) and first term (a) are given. We need to find the number of terms (n) and the common difference (d).

Here,

First term (a) = 8

Last term (a_n) = 62

Sum of n terms (S_n) = 210

Now, here the sum of the n terms is given by the formula,

$$S_n = \left(\frac{n}{2}\right)(a + l)$$

Where, a = the first term

l = the last term

So, for the given A.P, on substituting the values in the formula for the sum of n terms of an A.P., we get,

$$210 = \left(\frac{n}{2}\right)[8 + 62]$$

$$210(2) = n(70)$$

$$n = \frac{420}{70}$$

$$n = 6$$

Also, here we will find the value of d using the formula,

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

So, substituting the values in the above mentioned formula

$$62 = 8 + (6-1)d$$

$$62 - 8 = (5)d$$

$$\frac{54}{5} = d$$

$$d = \frac{54}{5}$$

Therefore, for the given A.P $\boxed{n = 6 \text{ and } d = \frac{54}{5}}$

(vi) Here, we have an A.P. whose first term (a), common difference (d) and sum of first n terms are given. We need to find the number of terms (n) and the n^{th} term (a_n).

Here,

First term (a) = 2

Sum of first n^{th} terms (S_n) = 90

Common difference (d) = 8

So, to find the number of terms (n) of this A.P., we use the following formula for the sum of n terms of an A.P

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

Where; a = first term for the given A.P.

d = common difference of the given A.P.

n = number of terms

So, using the formula for $n = 8$, we get,

$$S_n = \frac{n}{2}\left[2(2) + (n-1)(8)\right]$$

$$90 = \frac{n}{2}\left[4 + 8n - 8\right]$$

$$90(2) = n\left[8n - 4\right]$$

$$180 = 8n^2 - 4n$$

Further solving the above quadratic equation,

$$8n^2 - 4n - 180 = 0$$

$$2n^2 - n - 45 = 0$$

Further solving for *n*,

$$2n^2 - 10n + 9n - 45 = 0$$
$$2n(n-5) + 9(n-5) = 0$$
$$(2n+9)(n-5) = 0$$

Now,

$$2n + 9 = 0$$
$$2n = -9$$
$$n = -\frac{9}{2}$$

Also,

$$n - 5 = 0$$
$$n = 5$$

Since *n* cannot be a fraction

Thus, $n = 5$

Also, we will find the value of the n^{th} term (a_n) using the formula, $a_n = a + (n-1)d$

So, substituting the values in the above mentioned formula

$$a_n = 2 + (5-1)8$$
$$a_n = 2 + (4)(8)$$
$$a_n = 2 + 32$$
$$a_n = 34$$

Therefore, for the given A.P $\boxed{n = 5 \text{ and } a_n = 34}$.

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