Solve

\[3x^2 + 75 = 0\]
\[a^2 = 100\]
\[8x^2 + 72 = 0\]
\[(w + 3)^2 = 20\]
\[(t - 5)^2 = 18\]

\[x^2 + 10x + 25 \rightarrow (x + 5)^2\]
\[t^2 + 6t + 9 \rightarrow (t + 3)^2\]
\[p^2 - 14p + 49 \rightarrow (p - 7)^2\]

* In a perfect square trinomial the constant term is ALWAYS the square of \(\frac{1}{2}\) of the linear coefficient. (If leading coefficient is a one. *)

Determine the value of \(n\) which makes the expression a perfect square trinomial. Then factor.

\[x^2 + 20x + n\]
\[y^2 + 16y + n\]
\[a^2 - 5a + n\]

\[w^2 + \frac{7}{3}w + n\]