You can put inline math in with blackslash-parenthesis, then math, then blackslash-parenthesis, like this: $\psi + \phi$.

For longer series you can use align (add an asterisk to remove automatic numbering of equations) and the & sign (saying where you want the alignment to happen, e.g., the equals sign or such):

$$x_i = y + g^\theta \text{ :basic fun} \tag{1}$$
$$s_i = x + i \tag{2}$$

Handy websites:
Latex Wikibooks: Math
Latex Wikibooks: Advanced Math
Draw your symbol in order to find it!
Page 1
Chesson 2003, Eqn 1

$$N_j(t+1) = (1 - d_j)N_j + R_t N_j \tag{3}$$

where
d_j is *per capita* death of persistent stage (for us, seeds)
and
R_j is *per capita* number of new recruits The equivalent in our model (from Chesson 2004) is

$$\begin{aligned} N_j(t+1) &= s_j N_j(t)(1 - g_j(t)) + s_j N_j(t) g_j(t) \phi_j B_j(t+\delta) \\ N_j(t+1) &= \text{survival of persistent stage and loss to germination} \\ &\quad + \text{recruitment to persistent stage from germinants} \end{aligned}$$

When translating our model into these terms, we must decide how to measure survivorship (i.e., $(1 - d_j)$). It can be either s_j) or $s_j(1 - g_j(t))$.
The first case is cleaner – each species has a characteristic survivorship and all the germination dynamics are in the recruitment function. But survivorship is later used to scale by average lifespan. In that case, what is the appropriate generation time?

$$\begin{aligned} &= s_j N_j(t) + N_j + R_t N_j \\ &= \text{survivorship of persistent stage} + \text{recruitment to persistent stage} \\ \text{where } R_t &= g_j(t) s_j N_j(t)[\phi B_j(t+\delta) - 1] \\ &R_t \text{ is now germination, growth, conversion back to seeds, and overwinter survival} \end{aligned}$$

Equivalents in our model (from Chesson 2004)