

$$\begin{array}{l}
? \\
? \\
? \\
? \\
? \\
? \\
? \\
-Z \\
M \\
\subseteq \\
N \\
M \\
NM \\
N< \\
M \\
R \\
M \\
-R \\
x\in \\
M \\
M/Rx \\
I_x \\
I_x:= \\
\{r\in R|rM\subseteq Rx\} \\
x\in \\
M \\
\text{Ann}(M)\subseteq \\
I_x \\
Rx= \\
M \\
I_x= \\
R \\
M= \\
R \\
x\in \\
R \\
I_x= \\
\text{Ann}(R/R_x)= \\
Rx \\
I_xI_y= \\
0 \\
xy= \\
0 \\
x\in \\
R \\
R \\
y\in \\
R \\
I_xI_yR= \\
0 \\
M \\
\Gamma^*({}_RM)=\Gamma({}_RM) \\
\Gamma({}_RM)=\Gamma_*({}_RM). \\
\Gamma_*({}_RM) \\
\text{diam}(\Gamma({}_RM))3 \\
\Gamma_*({}_RM) \\
\text{gr}(\Gamma_*({}_RM))4 \\
M \\
-R \\
x\in \\
M \\
\text{Ann}(M/Rx) \\
I_x \\
M \\
-R \\
x \\
M= \\
0 \\
I_xI_yM= \\
0 \\
y\in \\
M \\
I_y\subset \\
R \\
x= \\
0 \\
0\neq \\
I_x \\
I_xI_yM= \\
0 \\
y\in \\
M \\
0\neq \\
I_y\subset \\
R \\
x= \\
0 \\
\text{Ann}(M)\subset \\
I_x \\
I_xI_yM= \\
0 \\
y\in \\
M \\
\text{Ann}(M)\subset \\
I_y\subset \\
R \\
M \\
M(M)
\end{array}$$