

## 2. Three-color Ramsey numbers for paths

$R(G_1, G_2, \dots, G_r)$  is the minimum  $n$  such that an arbitrary  $r$ -edge coloring of  $K_n$  contains a copy of  $G_i$  in color  $i$  for some  $i$ .

Very little is known about  $R(G_1, \dots, G_r)$  in general, there are some results for special graphs.

Gerencsér-Gyárfás 1967

$$R(P_n, P_n) = \left\lfloor \frac{3n-2}{2} \right\rfloor$$

Sharpness:

$n$  even

