```
In[4]:= DSolve[\{y'[t] == Sin[t]^2y[t], y[0] == 1\}, y, t] // StandardForm
        \left\{\left\{y \to \mathsf{Function}\left[\left\{t\right\}, \, e^{\frac{t}{2} - \frac{1}{4}\mathsf{Sin}\left[2t\right]}\right]\right\}\right\}
ln[30]:= resNormal1X = Table[i*0.1, {i, 0, 60}];
        resNormal1Y = Table[1, {i, 0, 60}];
        For [i = 1, i < 61, i++,
         resNormal1Y[[i+1]] = resNormal1Y[[i]] + 0.1* Sin[(i-1)*0.1]^2*resNormal1Y[[i]]]
ln[33]:= resNormal2X = Table[i*0.025, {i, 0, 240}];
        resNormal2Y = Table[1, {i, 0, 240}];
        For [i = 1, i < 241, i++,
         resNormal2Y\big[\big[i+1\big]\big] = resNormal2Y\big[\big[i\big]\big] + 0.025 * Sin\big[\big(i-1\big)*0.025\big]^2 * resNormal2Y\big[\big[i\big]\big]\big]
ln[37] = resNormal3X = Table[i*0.1, {i, 0, 60}];
        resNormal3Y = Table[1, \{i, 0, 60\}];
        For i = 1, i < 61, i++,
         tn = (i - 1) *0.1;
         yn = resNormal3Y[[i]];
         k1 = 0.1 * Sin[tn]^2 yn;
         k2 = 0.1 * Sin[tn + 0.05]^{2} (yn + 0.5 * k1);
         k3 = 0.1 * Sin[tn + 0.05]^{2} (yn + 0.5 * k2);
         k4 = 0.1 * Sin[tn + 0.1]^{2} (yn + k3);
         resNormal3Y[[i+1]] = yn + \frac{k1 + 2 k2 + 2 k3 + k4}{6}
In[50]:= Show
          \label{listPlotTranspose} $$\{ ListPlot[Transpose[{resNormal3X}, resNormal3Y}], PlotMarkers \rightarrow {"+", Large}, PlotStyle \rightarrow Red], $$
           ListPlot[Transpose[\{resNormal2X, resNormal2Y\}], PlotMarkers \rightarrow \{"*"\}, PlotStyle \rightarrow Black], \\
           ListPlot[Transpose[{resNormal1X, resNormal1Y}]],
           Plot \left[e^{\frac{t}{2}-\frac{1}{4}Sin[2t]}, \{t, 0, 6\}\right], PlotRange \rightarrow All
        20
        15
Out[50]=
        10
```