Kroužek s poddajnou příčkou - výpočet s pomocí WxMaxima

```
kill(all);
```

done

```
M : MB+F·R/2·sin(fi)+NB·R·(1−cos(fi));
```

$$\frac{F\ R\ \sin(fi)}{2}+NB\ R\ (1-\cos(fi))+MB$$

```
mfi : +1;
mv : +R·(1−cos(fi));
```

1

$$R\ (1-\cos(fi))$$

```
fiB : integrate(  M·mfi·R/(E·J), fi, 0, %pi/2   );
```

$$\frac{R\ (((\pi-2)\ NB+F)\ R+\pi\ MB)}{2\ E\ \mathcal{J}}$$

```
vB : integrate(  M·mv·R/(E·J), fi, 0, %pi/2   );
```

$$\frac{R^2\left|\frac{3\ \pi\ NB\ R}{4}-2\ NB\ R+\frac{F\ R}{4}+\frac{\pi\ MB}{2}-MB\right|}{E\ \mathcal{J}}$$

```
reseni : linsolve( [ fiB = 0, vB = − NB·R/(E·0.5·S)  ], [NB, MB]   );
```

rat: replaced 2.0 by 2/1 = 2.0

$$\left[NB=\frac{F\ R^2\ (\pi\ S-4\ S)}{R^2\ (\pi^2\ S-8\ S)+8\ \pi\ \mathcal{J}},MB=-\frac{F\ R^3\ (2\ \pi\ S-6\ S)+8\ F\ \mathcal{J}\ R}{R^2\ (\pi^2\ S-8\ S)+8\ \pi\ \mathcal{J}}\right]$$

```
ev(M, reseni);
```

$$\frac{F\ R\ \sin(fi)}{2}+\frac{F\ R^3\ (\pi\ S-4\ S)\ (1-\cos(fi))}{R^2\ (\pi^2\ S-8\ S)+8\ \pi\ \mathcal{J}}-$$

$$\frac{F\ R^3\ (2\ \pi\ S-6\ S)+8\ F\ \mathcal{J}\ R}{R^2\ (\pi^2\ S-8\ S)+8\ \pi\ \mathcal{J}}$$

Kroužek s tuhou příčkou

```
reseniTUHpric : linsolve( [ fiB = 0, vB = 0  ], [NB, MB]   );
```

$$\left[NB=\frac{(\pi-4)\ F}{\pi^2-8},MB=-\frac{(2\ \pi-6)\ F\ R}{\pi^2-8}\right]$$

```
ev(M, reseniTUHpric);
```

$$\frac{F\ R\ \sin(fi)}{2}+\frac{(\pi-4)\ F\ R\ (1-\cos(fi))}{\pi^2-8}-\frac{(2\ \pi-6)\ F\ R}{\pi^2-8}$$