```
> restart;
```

```
> eq1 := area = (Pi-(1/2)*theta)*rho^2-(Pi-(1/2)*theta)*rho0^2;
```

$$eq1 := area = \left(\pi - \frac{1}{2}\,\theta\right)\,\rho^{2} - \left(\pi - \frac{1}{2}\,\theta\right)\,\rho0^{2}$$

```
> eq2 := (2*Pi-theta)*rho = 2*Pi*R;
```

$$eq2 := (2\,\pi - \theta)\,\rho = 2\,\pi\,R$$

```
> eq3 := (2*Pi-theta)*rho0 = 2*Pi*r;
```

$$eq3 := (2\,\pi - \theta)\,\rho0 = 2\,\pi\,r$$

```
> eq4 := rho0+dh = rho;
```

$$eq4 := \rho0 + dh = \rho$$

```
> eq5 := (R-r)^2+dx^2 = dh^2;
```

$$eq5 := (R - r)^{2} + dx^{2} = dh^{2}$$

```
> S := solve({eq1, eq2, eq3, eq4, eq5}, {area, theta, rho, rho0, dh});
```

$$S := \left\{ \rho0 = \frac{\mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2)\,r}{R - r},\right.$$

$$\rho = \frac{\mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2)\,R}{R - r},$$

$$\theta = -\frac{2\,(-\mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2) + R - r)\,\pi}{\mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2)},$$

$$area = \mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2)\,\pi\,(R + r),$$

$$\left. dh = \mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2) \right\}$$

```
> subs(S, area);
```

$$\mathrm{RootOf}(\_Z^{2} - r^{2} + 2\,R\,r - R^{2} - dx^{2},\ label = \_L2)\,\pi\,(R + r)$$

```
>
```