```
restart;
f := 2·x·y < x·x + y·y − 2;
```

$$2\,x\,y < x^2 + y^2 - 2 \tag{1}$$

```
g := x > 0;
```

$$0 < x \tag{2}$$

```
h := y > 0;
```

$$0 < y \tag{3}$$

```
solve({f, g, h});
```

$$\{0 < x,\ x < RootOf(-2 + \_Z^2,\ index = 2) + y,\ -RootOf(-2 + \_Z^2,\ index = 2) < y\} \tag{4}$$

```
eval({f, g, h});
```

$$\{0 < x,\ 0 < y,\ 2\,x\,y < x^2 + y^2 - 2\} \tag{5}$$

```
eval({f, g, h}, x = 10);
```

$$\{0 < 10,\ 0 < y,\ 20\,y < 98 + y^2\} \tag{6}$$

```
plot1 := plot(2·x·y, x = 0..10, y = 0..10):
plot2 := plot(x^2 + y^2 − 2, x = 0..10, y = 0..10):
Warning, unable to evaluate the function to numeric values in the
region; see the plotting command's help page to ensure the
calling sequence is correct
i := x^2 + y^2 − 2·x·y − 2;
```

$$x^2 + y^2 - 2 - 2\,x\,y \tag{7}$$

```
solve(i > 0);
```

$$\{x < -\sqrt{2} + y\},\ \{\sqrt{2} + y < x\} \tag{8}$$

```
solve({i, g, h});
```

$$\{x = \sqrt{2} + y,\ 0 < y\},\ \{x = -\sqrt{2} + y,\ \sqrt{2} < y\} \tag{9}$$