Hledame na grafu funkce nejblizsi bod k bodu [x0,y0]

```
> with(student):
> f:=x->sqrt(1-x^2);
```

$$f := x \to \sqrt{1 - x^2}$$

```
> delka :=simplify(distance([x0,y0],[x,f(x)]));
```

$$delka := \sqrt{x0^2 - 2\,x0\,x + y0^2 - 2\,y0\,\sqrt{1 - x^2} + 1}$$

```
> derdelka:=diff(delka,x);
```

$$derdelka := \frac{-2\,x0 + \dfrac{2\,y0\,x}{\sqrt{1 - x^2}}}{2\,\sqrt{x0^2 - 2\,x0\,x + y0^2 - 2\,y0\,\sqrt{1 - x^2} + 1}}$$

```
>
> X:=solve(numer(derdelka)=0,x);
```

$$X := \frac{x0}{\sqrt{x0^2 + y0^2}}, -\frac{x0}{\sqrt{x0^2 + y0^2}}$$

```
>
> Y:=simplify(f(X));
```

$$Y := \sqrt{\frac{y0^2}{x0^2 + y0^2}}$$

```
>
>
> Credit:= "I&C, p. 113" ;
```

$$Credit := \text{"I\&C, p. 113"}$$

```
>
```