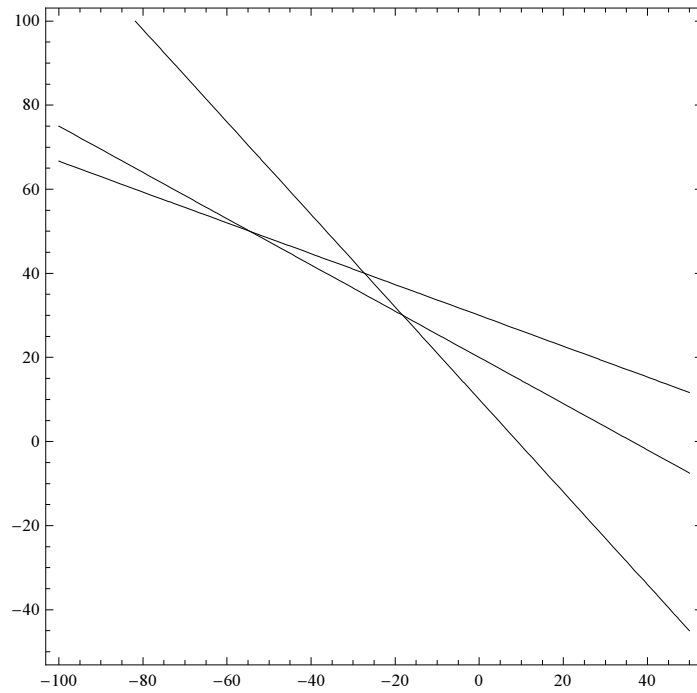


Problem prodajalca

Grafično reševanje

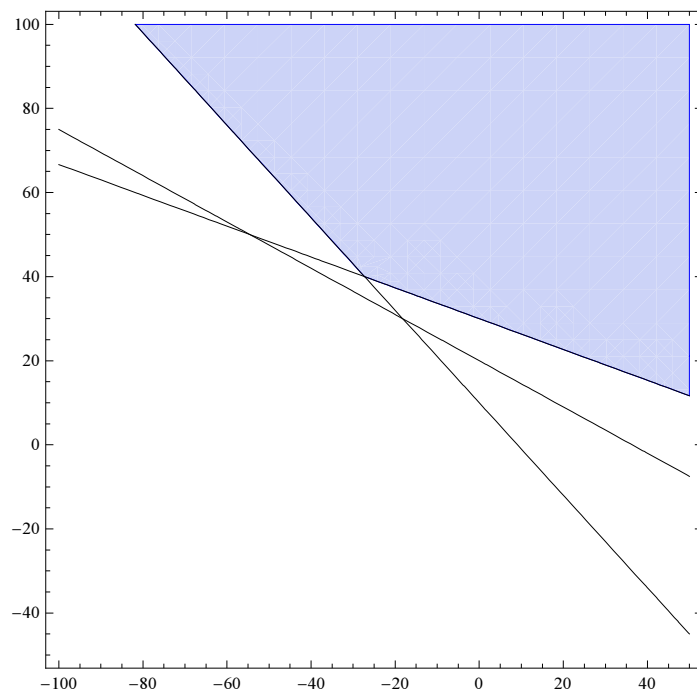
```
meje = ContourPlot[{11  $\alpha$  + 30  $\beta$  == 900, 11  $\alpha$  + 20  $\beta$  == 400, 11  $\alpha$  + 10  $\beta$  == 100},  
  { $\alpha$ , -100, 50}, { $\beta$ , -50, 100}, ContourStyle  $\rightarrow$  Black]
```



Dopustno območje je presek polravnin.

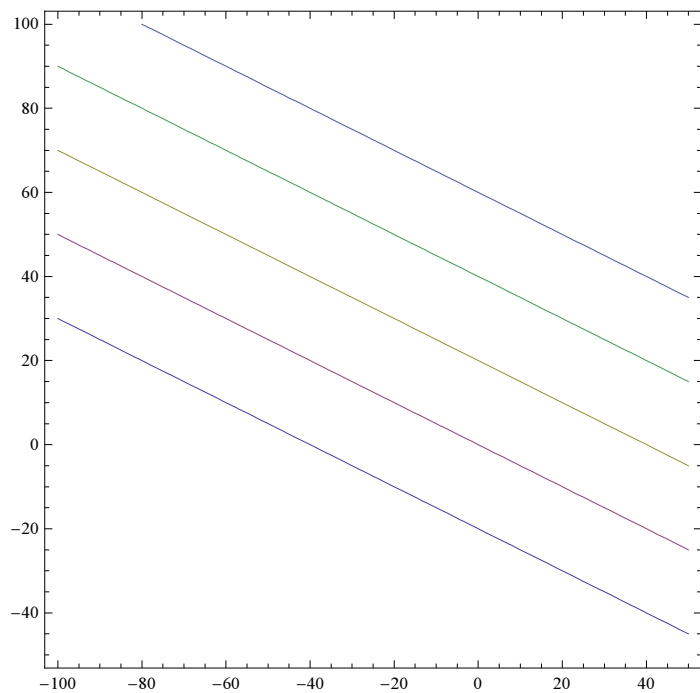
```
obmocje = RegionPlot[11  $\alpha$  + 30  $\beta$   $\geq$  900 && 11  $\alpha$  + 20  $\beta$   $\geq$  400 && 11  $\alpha$  + 10  $\beta$   $\geq$  100,  
  { $\alpha$ , -100, 50}, { $\beta$ , -50, 100}, BoundaryStyle  $\rightarrow$  Blue];
```

```
Show[obmocje, meje]
```



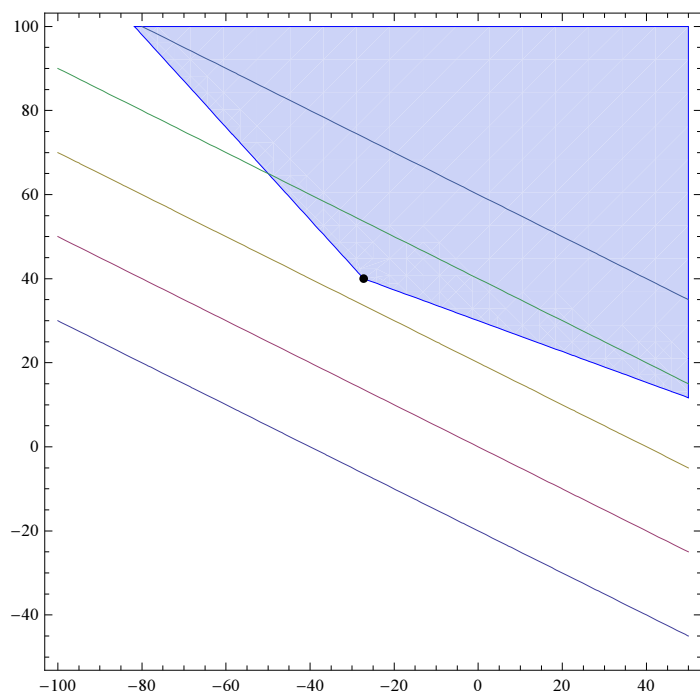
Nivojnice funkcije, ki jo minimiziramo, in točka, v kateri je minimum dosežen.

```
nivojnice = ContourPlot[{10  $\alpha$  + 20  $\beta$  == -400, 10  $\alpha$  + 20  $\beta$  == 0, 10  $\alpha$  + 20  $\beta$  == 400,
  10  $\alpha$  + 20  $\beta$  == 800, 10  $\alpha$  + 20  $\beta$  == 1200}, { $\alpha$ , -100, 50}, { $\beta$ , -50, 100}]
```



```
točka = Graphics[{PointSize[Medium], Point[{ $-\frac{300}{11}$ , 40}]}];
```

```
Show[obmocje, nivojnice, točka]
```



Linearni program

```
Minimize[{10  $\alpha$  + 20  $\beta$ , 11  $\alpha$  + 30  $\beta$   $\geq$  900, 11  $\alpha$  + 20  $\beta$   $\geq$  400, 11  $\alpha$  + 10  $\beta$   $\geq$  100}, { $\alpha$ ,  $\beta$ }]
```

```
{ $\frac{5800}{11}$ , { $\alpha \rightarrow -\frac{300}{11}$ ,  $\beta \rightarrow 40$ }}
```