1.5 Comparative Statics

true

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Quasi-Linear Utility

Consider a consumer who initially budgets an income of 100 for consuming goods 1 and 2; faces prices of good 1 and good 2 equal to 1.5 and 1.0, respectively; and exhibits quasi-linear preferences described by the following utility function:

$$U(x) = x_1^{0.25} + x_2,$$
$$\text{s.t.: } 1.5x_1 + x_2 \leq 100$$

1. Plot the Engel Curve for this consumer for good 1 by computationally solving and connecting at least 5 points of the curve. You may choose any changes in income you like; the "solution" uses ± 5 and ± 10.

```
##
## Iter: 1 fn: -2.8574   Pars:  66.666664374505  0.0000000
## Iter: 2 fn: -2.8574   Pars:  6.667e+01 8.239e-10
## solnp--> Completed in 2 iterations

##
```