The dependent variable is a piecewise linear function of the independent variables; this is essentially a bunch of piecewise hyperplanes with a final twist.

## We have

- y = 0.1 whenever  $|x_1| < 0.1$
- $y = -x_3$  whenever:

$$\circ \quad \{x_1 < -0.1, x_2 < 0\}$$

$$\{x_1 > 0.1, x_2 > 0\}$$

$$(x_1 < -0.1, x_2 > 0, x_3 > 0)$$

$$\{x_1 > 0.1, x_2 < 0, x_3 < 0\}$$

•  $y = x_1 + x_2 + x_3$  whenever:

$$0 \quad \{x_1 < -0.1, x_2 > 0, x_3 < 0\}$$

$$o \{x_1 > 0.1, x_2 < 0, x_3 > 0\}$$

Finally, for some diabolical reason every 45<sup>th</sup> point obeys a different rule, which is that  $y = x_1 - x_2$ .