

1. According to the A. W. May (Fecundity of Atlantic Cod, *Journal of the Fisheries Research Board of Canada* 24: 1531-1551, 1967) the relation between fecundity ( $N_{\text{egg}} = \text{eggs/female}$ ) and body length ( $L = \text{cm}$ ) is

$$F = 0.50 L^{3.42}$$

What is the fecundity of an average length cod?  
The average length is currently 56.7 cm

$4.97 \cdot 10^5 \text{ eggs}$

Write a data equation for a 56.7 cm cod with a fecundity of  $6.0 \times 10^5$  eggs.

$6 \cdot 10^5 \text{ eggs} = 4.97 \cdot 10^5 \text{ eggs} + 1.03 \cdot 10^5 \text{ eggs}$

2. Write an  $H_A / H_0$  pair concerning the fecundity of fish in two years,  $F_{1983}$  versus  $F_{1985}$ . State the two hypotheses in words as well as symbolic form.

$$H_0 : E(F_{1983}) = E(F_{1985})$$

$$H_0 : \mu_{F_{1983}} = \mu_{F_{1985}}$$

The expected value (population mean) of fecundity is the same in the two years.

$$H_A : E(F_{1983}) \neq E(F_{1985})$$

$$H_A : \mu_{F_{1983}} \neq \mu_{F_{1985}}$$

The expected value (population mean) of fecundity differs in the two years.