

Two fish farmers  $X$  and  $Y$  produce a particular type of fish. Farmer  $X$  chooses a random sample of 8 of his fish and records the masses,  $x$  kg, as follows.

1.2   1.4   0.8   2.1   1.8   2.6   1.5   2.0

Farmer  $Y$  chooses a random sample of 10 of his fish and summarises the masses,  $y$  kg, as follows.

$$\Sigma y = 20.2 \quad \Sigma y^2 = 44.6$$

You should assume that both distributions are normal with equal variances. Test at the 10% significance level whether the mean mass of fish produced by farmer  $X$  differs from the mean mass of fish produced by farmer  $Y$ . [10]