

# Statistics 2

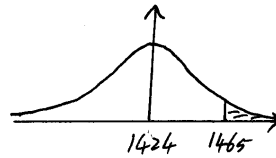
## Samples and hypothesis testing

### Section 2: Contingency tables

#### Solutions to Exercise 3C

4. (1)  $H_0$ : the mean amount spent stays the same, so  $\mu = 1424$   
 $H_1$ : the mean amount spent increases, so  $\mu > 1424$

$$(ii) \quad z = \frac{1465 - 1424}{\frac{108}{\sqrt{20}}} = 1.70$$



For the 5% significance level the critical value is 1.645

As  $1.70 > 1.645$ , the result is significant so  $H_0$  is rejected, that is, the mean amount spent has increased.