

# Hypotheses

For each of the following tests, state the  $H_0$  that should be used for its corresponding  $H_1$

$H_0:$  \_\_\_\_\_

$H_1: \mu_d \neq 0$

$H_0:$  \_\_\_\_\_

$H_1: \mu_d > 0$

$H_0:$  \_\_\_\_\_

$H_1: \mu_d < 0$

For each of the following tests, state the  $H_0$  and  $H_1$  that should be used

The average price, in £, for various electrical items from a store in Surrey and a store in Yorkshire were found. Test the hypothesis that the mean price of electrical items is lower in Yorkshire than in Surrey.

$H_0:$  \_\_\_\_\_

$H_1:$  \_\_\_\_\_

A random sample of 10 people were asked to taste test 2 pepperoni pizzas from 2 different local take away stores and score them both out of 10. Investigate for a mean difference between the two pizzas scores.

$H_0:$  \_\_\_\_\_

$H_1:$  \_\_\_\_\_

Seven volunteers were asked to step on and off a bench set at 30cm above the ground and then 40cm above the ground 50 times. After each bench their pulse rates were measured. Test whether the height of the bench affects the mean pulse rate of the volunteers.

$H_0:$  \_\_\_\_\_

$H_1:$  \_\_\_\_\_

Darla is a self-professed antiques expert. Martyn is wary of Darla's estimates and asks her to value 10 items that have recently been bought into the auction house. By comparing Darla's estimates to the price the items sold for at auction, test Martyn's claim that she is under-valuing the items.

$H_0:$  \_\_\_\_\_

$H_1:$  \_\_\_\_\_

To make it easier for warehouse colleagues to find items, a new layout of the warehouse floor is being trialed. 12 colleagues are asked to collect an item in the old layout and then the same item again a week later when the layout of the store has been changed. The time it takes to collect the item is recorded. Test the warehouse's hypothesis that the new layout allows colleagues to collect items more quickly.

$H_0:$  \_\_\_\_\_

$H_1:$  \_\_\_\_\_