

# Solutions

For each of the following pairs of hypotheses, choose if the test will be one or two tailed

$H_0: \eta = 2\text{litres}$   
 $H_1: \eta < 2\text{litres}$

☒ One-Tailed

☐ Two-Tailed

$H_0: \eta = 47\text{g}$   
 $H_1: \eta \neq 47\text{g}$

☐ One-Tailed

☒ Two-Tailed

$H_0: \eta = 2.5\text{cm}$   
 $H_1: \eta \neq 2.5\text{cm}$

☐ One-Tailed

☒ Two-Tailed

$H_0: \eta = 80\text{mins}$   
 $H_1: \eta < 80\text{mins}$

☒ One-Tailed

☐ Two-Tailed

$H_0: \eta = 300\text{ml}$   
 $H_1: \eta > 300\text{ml}$

☒ One-Tailed

☐ Two-Tailed

$H_0: \eta = 6.3\text{miles}$   
 $H_1: \eta > 6.3\text{miles}$

☒ One-Tailed

☐ Two-Tailed

$H_0$ : The cats show no preference to the type of food purchased  
 $H_1$ : The cats show a preference for 'Munchies' over 'Mescos own Brand'

☒ One-Tailed

☐ Two-Tailed

$H_0$ : Students show no preference for any option on the multiple choice quiz  
 $H_1$ : Students show a preference for any option on the multiple choice quiz

☐ One-Tailed

☒ Two-Tailed

$H_0$ : Children show no preference to any of the coloured pictures  
 $H_1$ : Children prefer the pictures which are colours 'red'

☒ One-Tailed

☐ Two-Tailed

$H_0$ : Parents show no preference to whether they attend the am or pm assembly  
 $H_1$ : Parents prefer to attend the pm assembly

☒ One-Tailed

☐ Two-Tailed

$H_0$ : The machine shows no bias towards the chute in which it ejects the boxes  
 $H_1$ : The machine shows bias towards chute 2 when ejecting the boxes

☒ One-Tailed

☐ Two-Tailed