

4.1 Quantitative problem solving and data

Name: _____ Class: _____ Date: _____

KEY WORDS conditional probability • numerical entry

Objective

Solve algebraic, geometric and data-analysis problems; Select all valid options where requested; Enter numerical answers in the required form and use the on-screen calculator appropriately.

Original public tasks and locally authored marking guidance. No official score is assigned.

1 Key knowledge and worked examples

conditional probability : Probability within a specified condition.

numerical entry : An answer entered as a number rather than an option.

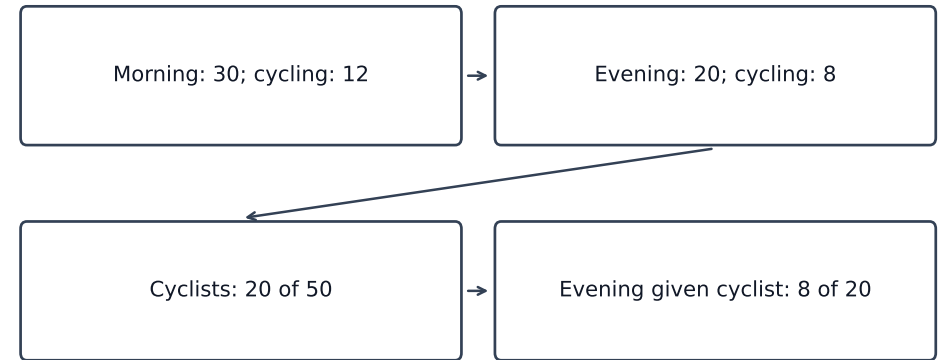
GRE General quantitative content includes arithmetic, algebra, geometry and data analysis; calculus is not required.

Read whether a problem asks for one answer, all answers or numerical entry. Check units and form before submitting.

For data interpretation, identify the denominator and whether a percentage is conditional on a subgroup.

The on-screen calculator is available for General quantitative sections. Estimate first to catch an entry error.

A class has 12 morning and 8 afternoon students. Of them, 3 morning and 4 afternoon students cycle. $P(\text{cycles}) = 7/20$. $P(\text{afternoon given cycles}) = 4/7$. The second denominator includes only cyclists.



Condition on cyclists: 8 of the 20 cyclists travelled in the evening

2 Practice

2.1 In an original survey table, morning students number 30 and evening students 20. Twelve morning and eight evening students cycle. Enter the probability that a randomly chosen student cycles as a decimal. Enter the probability that a cyclist is an evening student as a fraction.

3 Exam-style questions

3.1 A rectangular display has area 48 cm^2 , positive integer side lengths and perimeter at most 32 cm. Select all possible lengths of its longer side: 6, 8, 12, 16, 24. Show why your list is complete.
