# QTS Numerical Reasoning Practice Test

1. The school trip to the Christmas ice-skating rink costs £3.75 entrance per pupil. There is a 5% reduction in the entrance fee for booking in advance. How much would be saved by booking in advance for 53 pupils?
2. In a school survey each of the pupils was asked what their favourite sport was. The pie-chart shows the pupils’ results. Indicate all the true statements:

a) There are 200 pupils in total at the school.

b) For a quarter of the pupils swimming is their favourite sport.

c) 40% of the school pupils chose football as their favourite sport.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2006 | 2007 | 2008 |
| Boy pupils (%) | 80 | 99.2 | 98.2 |
| National average (%) | 51.2 | 51.2 | 51.2 |

3) Indicate all the true statements:

1. The % of boys passing the Maths tests has been higher than the national average each year between 2006-2008.
2. The national average on the Maths test has improved each year between 2006-2008.
3. The % of boys passing the test has increased between 2007-2008.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Attendance Rate 2003/04 | Attendance Rate 2004/05 | Attendance Rate 2005/06 |
| School (%) | 94.9 | 94.7 | 94.9 |
| National average (%) | 94.7 | 94.9 | 95.1 |

4) Indicate all the true statements

a) The school’s attendance rate increased between 2003-2006.

b) The national average has consistently decreased each year.

c) For school year 2004/05 the school’s attendance rate was below that of the national average.

5) The new head teacher is planning the Easter play that the school is putting on. She wants to start the performance one and a half hours after school finishes at 15:50. The head teacher also wants to allow 15 minutes after arrival time for parents to mingle. The play lasts 35 minutes. What time will it finish? Give your answer using the 24 hour clock.

|  |  |
| --- | --- |
| GCSE subject | Number of secondary pupils |
| Maths | 60 |
| Chemistry | 28 |
| Physics | 33 |
| Biology | 34 |
| History | 28 |
| Geography | 22 |
| French  | 19 |
| English | 56 |
| Computing | 36 |
| Geography | 14 |

6. What % of pupils has Maths as their first lesson on a Monday morning? Give your answer to 1 decimal place

7. What fraction of pupils has Physics as their first lesson on a Monday morning?

|  |  |  |
| --- | --- | --- |
|  | Maths test A(out of 25) | Maths test B(out of 30) |
| Girl 1 | 19 | 22 |
| Girl 2 | 15 | 25 |
| Girl 3 | 11 | 19 |
| Girl 4 | 25 | 27 |
| Girl 5 | 22 | 20 |
| Girl 6 | 18 | 22 |

8) Indicate all the true statements

a) The score ranges for Maths tests A and B are 11-26 and 19-27.

b) The mean scores for Maths tests A and B are 18.3 and 22.5.

c) The mode for Maths test B is 22.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2006 | 2007 | 2008 |
| School | 185 | 174 | 165 |
| National average | 242 | 240 | 241 |

9) Which year had the highest school size as a % of the national average?

10. How many pupils performed at or above the teacher’s assessment?

11. What was the mean score achieved? Give your answer correct to one decimal place.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A-level passes | 1 | 2 | 3 | 4 |
| Number of pupils | 5 | 29 | 49 | 15 |

12) What % of pupils achieved less than 3 A-levels passes? Give your answer to 1 decimal place.

13) Indicate all the true statements

a) Overall performance was higher in the English test compared to the Maths test.

b) 55% of pupils got an A or B grade in the English test.

c) Less than half the pupils got grades C, D or E in the Maths test.

<Insert QTS graph question 14>

*.*

14) Indicate all the true statements

a) A third of the class pupils scored lower marks on Test 2 compared to Test 1.

b) The score range for Test 1 differs from the score range for Test 2.

c) The pupil with the lowest score on Test 2 scored the lowest score on Test 1.

15) Indicate all the true statements

a) The number of boys by year ranges from 13 to 17.

b) The smallest class size was in year 2007.

c) There have been more girls than boys in the class each year between 2004-2008.

|  |  |  |  |
| --- | --- | --- | --- |
| Girls | Spelling test results | Boys | Spelling test results |
| Girl 1 | 14 | Boy 1 | 18 |
| Girl 2 | 16 | Boy 2 | 12 |
| Girl 3 | 12 | Boy 3 | 13 |
| Girl 4 | 11 | Boy 4 | 19 |
| Girl 5 | 19 | Boy 5 | 14 |
| Girl 6 | 17 | Boy 6 | 12 |
| Girl 7 | 9 | Boy 7 | 18 |

16) Indicate all the true statements

a) The mean score for all boys and girls was 15.

b) Boys had a smaller range of scores than girls.

c) The median test score for girls was 12.

17) Indicate all the true statements

a) More than twice as many pupils walk compared to those who travel by coach.

b) The ratio of those who travel by train compared to those who walk is 1:2.

c) Less than half the pupils travel to school by car.

|  |  |
| --- | --- |
| Term | Number of pupils taking drama lessons each week |
| Winter term | 16-25 |
| Spring term | 19-30 |
| Summer term | 18-22 |

18) What was the range in pupil numbers across all 3 terms?

|  |  |  |
| --- | --- | --- |
|  | English | Maths |
| Level 2 – Boys | 28 | 22 |
| Level 2 – Girls | 26 | 25 |
| Level 3 – Boys | 11 | 10 |
| Level 3 – Girls | 12 | 14 |

19. Indicate all the true statements

a) Less than a third of the pupils who took the Maths test achieved Level 3.

b) More than 70% of the pupils who took the English test achieved Level 2.

c) More girls than boys achieved Level 2 in the English test.

|  |  |  |
| --- | --- | --- |
|  | Class size | Reading test standardised score 7+ |
| Class 1 | 30 | 15 |
| Class 2 | 29 | 20 |
| Class 3 | 31 | 16 |

20) What is the mean for all three classes? Give your answer to 1 decimal place.