

2003 Year 4 Optional Maths SATs Age standardised scores

This section explains how to work out age standardised scores for mathematics.

Age standardised scores take into account the child's age in years and months, so you have an indication of how each child is performing relative to other children of the same age. It also means that the tests can be administered at different points in the school year including, in the case of year 4 tests, in the first half of the autumn term in year 5 and comparative information still be obtained. The standardised scores in this section cover the age range 7 years 10 months to 10 years 9 months. If you have decided to give the tests to children outside this range, you will not be able to use the tables. You will still though, be able to calculate national curriculum levels.

Calculating age standardised scores

To convert a raw score into an age standardised score:

- list the ages of all children in your class in *years and completed months* at the time of testing;
- for each child, locate his or her age in years and months along the top of the table;
- locate the child's raw score down the left side of the table;
- read off the standardised score from where the row and column meet.

Statistically, the 'average' standardised score is 100. A high score is above 'average' and a score below 100 is below 'average'. About two-thirds of children will have standardised scores between 85 and 115. Almost all children fall within the range 70 to 130, so scores outside this range can be regarded as exceptional.

Making use of age standardised scores

If you choose to work out age standardised scores, you may use this additional information about the children's performance in various ways, for example:

- Age standardised scores could be averaged across a group, for example a class or year group. In the average school, year group or class, the mean score should be close to 100; if it is much above or below this, the performance of your class or school varies from the national 'average'.
- You may include it as part of the information to parents, eg *an age standardised score of 112 shows us that the test performance was above average for his or her age.*
- You may be able to identify patterns and results which indicate teaching and learning issues to be addressed, eg *the difference in older/younger children's performance.*
- Similarly, age standardised scores can be used to consider differences in performance between boys and girls, or children who have English as an additional language and those who do not. In order to provide useful information, these groups need to be reasonably large; small groups will not provide reliable information.
- The progress made by an individual, a class or a school can be monitored from one year to the next. Age standardised scores can be calculated and reported for individual children. However, because of the nature of the scores and the fact that they are a statistical estimate (see 'Confidence bands' below), the scores are much more reliable when calculated for groups of children. In addition, if reported to parents, the fact that a child who is making typical progress from year to year will remain on a similar age standardised score will need to be explained.

National comparisons – using the shaded bands

The tables of standardised scores are divided into five shaded bands. These bands give an indication of how the scores relate to the national population. The band nearest the top of a table contains the scores that correspond to the lowest fifth of the population; the next band, the next fifth; and so on. If a child has a score in the final band, you know that his or her score is in the top 20 per cent nationally, once age has been taken into account.

Confidence bands

As the standardised scores in the table are derived from only one short test, some margin of error is inevitable, as is the case for all standardised tests. A margin of error does not mean children have been assessed incorrectly. It is simply a statistical estimate, based on the fact that tests can sample only the particular area of learning which they assess. To indicate how wide this margin of error is likely to be, a '90 per cent confidence band' has been calculated. This means that you can have 90 per cent certainty that the child's true score lies within the confidence band. In this case, the 90 per cent confidence band is 7. So, for example, if a child has a standardised score of 110 in mathematics, you can be 90 per cent certain that the true score is between 103 and 117.

Mathematics test 4a

Raw score □	Age in Years and (Completed) Months																	
	7.10	7.11	8.00	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08	8.09	8.10	8.11	9.00	9.01	9.02	9.03
0	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
1	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
2	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
3	71	71	70	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
4	75	74	74	73	72	72	71	70	70	69	69	69	69	69	69	69	69	69
5	78	77	77	76	75	75	74	73	73	72	71	71	70	69	69	69	69	69
6	81	80	79	78	78	77	76	76	75	74	74	73	72	72	71	70	70	69
7	83	82	81	81	80	79	79	78	77	76	76	75	74	74	73	72	72	71
8	85	84	83	83	82	81	80	80	79	78	78	77	76	76	75	74	74	73
9	87	86	85	84	84	83	82	81	81	80	79	79	78	77	77	76	75	75
10	88	88	87	86	85	84	84	83	82	82	81	80	80	79	78	77	77	76
11	90	89	88	88	87	86	85	85	84	83	82	82	81	80	80	79	78	78
12	92	91	90	89	88	88	87	86	85	84	84	83	82	82	81	80	80	79
13	94	93	92	91	90	89	88	87	87	86	85	84	84	83	82	82	81	80
14	95	94	93	92	92	91	90	89	88	87	86	86	85	84	83	83	82	81
15	96	96	95	94	93	92	91	90	89	89	88	87	86	85	85	84	83	83
16	98	97	96	95	94	94	93	92	91	90	89	88	87	87	86	85	84	84
17	99	98	97	96	96	95	94	93	92	91	90	90	89	88	87	86	86	85
18	100	99	99	98	97	96	95	94	94	93	92	91	90	89	88	87	87	86
19	101	101	100	99	98	97	96	96	95	94	93	92	91	90	89	89	88	87
20	103	102	101	100	99	98	98	97	96	95	94	93	93	92	91	90	89	88
21	104	103	102	101	100	100	99	98	97	96	95	95	94	93	92	91	90	89
22	105	104	103	102	102	101	100	99	98	97	96	96	95	94	93	92	91	90
23	106	105	104	103	103	102	101	100	99	98	98	97	96	95	94	93	93	92
24	107	106	105	105	104	103	102	101	100	100	99	98	97	96	95	95	94	93
25	108	107	106	106	105	104	103	102	101	101	100	99	98	97	96	96	95	94

Mathematics test 4a (continued)

Raw score □	Age in Years and (Completed) Months																	
	9.04	9.05	9.06	9.07	9.08	9.09	9.10	9.11	10.00	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09
0	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
1	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
2	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
4	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
5	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
6	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
7	70	70	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
8	72	71	71	70	69	69	69	69	69	69	69	69	69	69	69	69	69	69
9	74	73	73	72	71	70	70	69	69	69	69	69	69	69	69	69	69	69
10	75	75	74	73	73	72	71	71	70	69	69	69	69	69	69	69	69	69
11	77	76	75	75	74	73	73	72	71	71	70	69	69	69	69	69	69	69
12	78	77	77	76	75	75	74	73	73	72	71	71	70	69	69	69	69	69
13	79	79	78	77	77	76	75	75	74	73	73	72	71	71	70	69	69	69
14	81	80	79	79	78	77	77	76	75	74	74	73	72	72	71	70	70	69
15	82	81	80	80	79	78	78	77	76	76	75	74	74	73	72	71	71	70
16	83	82	82	81	80	79	79	78	77	77	76	75	75	74	73	73	72	71
17	84	83	83	82	81	81	80	79	78	78	77	76	76	75	74	74	73	72
18	85	84	84	83	82	82	81	80	79	79	78	77	77	76	75	75	74	73
19	86	85	85	84	83	83	82	81	80	80	79	78	78	77	76	76	75	74
20	87	87	86	85	84	84	83	82	81	81	80	79	79	78	77	77	76	75
21	88	88	87	86	85	84	84	83	82	82	81	80	80	79	78	78	77	76
22	90	89	88	87	86	86	85	84	83	83	82	81	81	80	79	78	78	77
23	91	90	89	88	87	87	86	85	84	84	83	82	81	81	80	79	79	78
24	92	91	90	89	88	88	87	86	85	84	84	83	82	82	81	80	80	79

Mathematics test 4b

Raw score □	Age in Years and (Completed) Months																	
	7.10	7.11	8.00	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08	8.09	8.10	8.11	9.00	9.01	9.02	9.03
0	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
1	76	76	75	75	75	75	74	74	74	74	74	73	73	73	73	72	72	72
2	79	79	79	78	78	78	78	77	77	77	77	77	76	76	76	76	75	75
3	82	81	81	81	80	80	80	79	79	79	79	78	78	78	78	78	77	77
4	84	84	83	83	83	82	82	82	81	81	80	80	80	79	79	79	79	79
5	86	85	85	85	84	84	83	83	83	82	82	82	81	81	81	80	80	80
6	88	87	87	86	86	85	85	84	84	84	83	83	83	82	82	82	81	81
7	90	89	89	88	88	87	87	86	86	85	85	84	84	84	83	83	83	82
8	92	91	91	90	89	89	88	88	87	87	86	86	85	85	84	84	84	83
9	94	93	92	92	91	90	90	89	89	88	87	87	86	86	86	85	85	84
10	95	95	94	93	93	92	91	91	90	89	89	88	88	87	87	86	86	85
11	97	96	95	95	94	94	93	92	92	91	90	90	89	88	88	87	87	86
12	98	98	97	96	96	95	94	94	93	92	92	91	90	90	89	89	88	87
13	100	99	98	98	97	96	96	95	94	94	93	92	92	91	90	90	89	89
14	101	101	100	99	98	98	97	96	96	95	94	94	93	92	92	91	90	90
15	103	102	101	101	100	99	98	98	97	96	95	95	94	94	93	92	92	91
16	104	103	102	102	101	100	100	99	98	97	97	96	95	95	94	93	93	92
17	105	105	104	103	102	102	101	100	99	99	98	97	96	96	95	94	94	93
18	107	106	105	104	104	103	102	101	101	100	99	98	98	97	96	96	95	94
19	108	107	106	106	105	104	103	102	102	101	100	99	98	97	97	96	95	95
20	109	108	107	107	106	105	104	104	103	102	101	101	100	99	98	98	97	96
21	110	109	109	108	107	106	106	105	104	103	102	102	101	100	100	99	98	97
22	111	110	110	109	108	107	107	106	105	104	104	103	102	101	101	100	99	98
23	112	111	111	110	109	109	108	107	106	106	105	104	103	102	102	101	100	100
24	113	112	112	111	110	110	109	108	107	107	106	105	104	104	103	102	101	101

Mathematics test 4b (continued)

Raw score □	Age in Years and (Completed) Months																	
	9.04	9.05	9.06	9.07	9.08	9.09	9.10	9.11	10.00	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09
0	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
1	72	71	71	71	71	70	70	70	70	70	69	69	69	69	69	69	69	69
2	75	75	74	74	74	74	74	73	73	73	73	72	72	72	72	71	71	71
3	77	77	76	76	76	76	75	75	75	75	75	74	74	74	74	73	73	73
4	78	78	78	78	77	77	77	77	76	76	76	76	75	75	75	75	75	74
5	79	79	79	79	78	78	78	78	78	77	77	77	77	76	76	76	76	75
6	81	80	80	80	79	79	79	79	78	78	78	78	78	78	77	77	77	76
7	82	82	81	81	81	80	80	80	79	79	79	79	78	78	78	78	77	77
8	83	83	82	82	82	81	81	81	80	80	80	79	79	79	79	78	78	78
9	84	84	83	83	82	82	82	81	81	81	80	80	80	79	79	79	79	78
10	85	84	84	84	83	83	83	82	82	82	81	81	81	80	80	80	79	79
11	86	85	85	84	84	84	83	83	83	82	82	82	81	81	81	80	80	80
12	87	86	86	86	85	85	84	84	84	83	83	82	82	82	81	81	81	80
13	88	87	87	86	86	86	85	85	84	84	84	83	83	82	82	82	81	81
14	89	89	88	87	87	86	86	85	85	85	84	84	83	83	83	82	82	82
15	90	90	89	88	88	87	87	86	86	85	85	84	84	84	83	83	83	82
16	91	91	90	89	89	88	88	87	87	86	86	85	85	84	84	84	83	83
17	92	92	91	90	90	89	89	88	88	87	87	86	86	85	85	84	84	84
18	94	93	92	92	91	90	90	89	88	88	87	87	86	86	85	85	85	84
19	95	94	93	93	92	91	91	90	89	89	88	88	87	87	86	86	85	85
20	96	95	94	94	93	92	92	91	90	90	89	89	88	87	87	86	86	86
21	97	96	95	95	94	93	93	92	91	91	90	89	89	88	88	87	87	86
22	98	97	96	96	95	94	94	93	92	92	91	90	90	89	89	88	87	87
23	99	98	97	97	96	95	95	94	93	93	92	91	91	90	89	89	88	88
24	100	99	98	98	97	96	96	95	94	94	93	92	92	91	90	90	89	89

