# Estimation and Accuracy - Answers

Key Stage 2: 2003 Paper B

1.

| | | | |
|---|---|---|---|
| ***3a*** | 45 | ***1m*** | |
| ***3b*** | 15:13 | ***1m*** | |

Key Stage 2: 2003 Paper B

2.

| | | | |
|---|---|---|---|
| ***20*** | Award **TWO** marks for all three answers correct, as shown:<br>k = **500** m = **750** n = **250**<br>If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg<br>■ 2n + 3n + n = 1500<br>1500 ÷ 6<br>**OR**<br>■ a trial and improvement method, eg<br>1000 + 1500 + 500 = 3000<br>200 + 300 + 100 = 600<br>400 + 600 + 200 = 1200 | ***Up to 2m***<br>U1 | *Accept for **ONE** mark any permutation of the correct answers, eg*<br>*k = 750, m = 250, n = 500*<br>*Answer need not be obtained for the award of **ONE** mark.*<br>*A 'trial and improvement' method must show evidence of improvement.* |

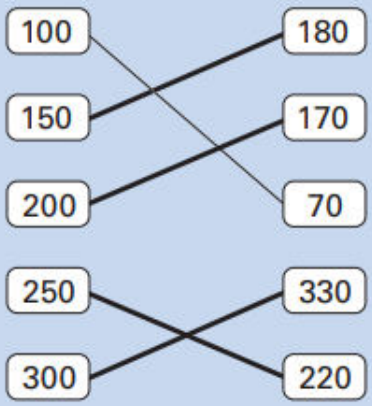
Key Stage 2: 2004 Paper A

1.

| | | | |
|---|---|---|---|
| ***1a*** | 115 | ***1m*** | |
| ***1b*** | 30 | ***1m*** | |
| ***1c*** | 69 | ***1m*** | |

Key Stage 2: 2005 Paper A

1.

| | | | |
|---|---|---|---|
| ***1*** | Award **TWO** marks for the four lines drawn as shown:<br>  <br><br>If the answer is incorrect, award **ONE** mark for three correct lines drawn **AND** not more than one incorrect line drawn. | ***Up to 2m*** | ***Do not*** *award any marks if two or more incorrect lines are drawn.*<br><br>*Lines need not touch the boxes, provided the intention is clear.* |

Key Stage 2: 2005 Paper A

2.

| | | | |
|---|---|---|---|
| ***17a*** | Answer in the range 126mm to 128mm inclusive. | ***1m*** | |
| ***17b*** | Answer in the range 21 degrees to 23 degrees inclusive. | ***1m*** | |

Key Stage 2: 2005 Paper B

1.

| | | | |
|---|---|---|---|
| ***11*** | 29 | ***1m*** | |

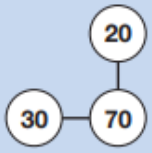
Key Stage 2: 2005 Paper B

2.

| | | | |
|---|---|---|---|
| ***13*** | Sapna **8** Robbie **6** | ***1m***<br>U1 | |

Key Stage 2: 2006 Paper A

1.

| | | | |
|---|---|---|---|
| ***5*** | Diagram completed as shown:<br>  <br> | ***1m*** | |

Key Stage 2: 2006 Paper B

1.

| | | | |
|---|---|---|---|
| ***20*** | Award **TWO** marks for all three numbers in order as shown:<br>129<br>**AND**<br>7492<br>**AND**<br>51<br><br>If the answer is incorrect, award **ONE** mark for two out of three numbers correct. | ***Up to 2m*** | ***Do not*** *accept 129.0* ***OR*** *7492.0* ***OR*** *51.0* ***OR*** *any other equivalent answers with zeroes after the decimal point.* |

Key Stage 2: 2007 Paper A

1.

| | | | |
|---|---|---|---|
| ***24*** | Two numbers circled as shown:<br>1.1 **1.4** $1\frac{1}{3}$ $1\frac{1}{5}$ | ***1m*** | ***Do not*** *award the mark if additional incorrect numbers are circled.*<br>*Accept alternative unambiguous indications, eg numbers ticked, crossed or underlined.* |

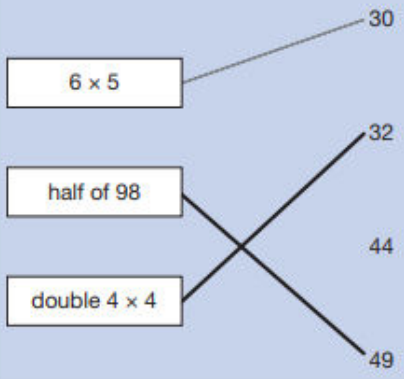
Key Stage 2: 2007 Paper B

1.

| | | | |
|---|---|---|---|
| ***12a*** | 20 **+** 8 = 4 **×** 7 | ***1m*** | |
| ***12b*** | 21 **÷** 3 = 15 **−** 8 | ***1m*** | |

Key Stage 2: 2008 Paper A

1.

| | | | |
|---|---|---|---|
| ***2*** | Two lines drawn as shown:<br>  <br> | ***1m*** | ***Do not*** *award the mark if additional incorrect lines are drawn.*<br>*Lines need not touch the boxes or numbers, provided the intention is clear.* |

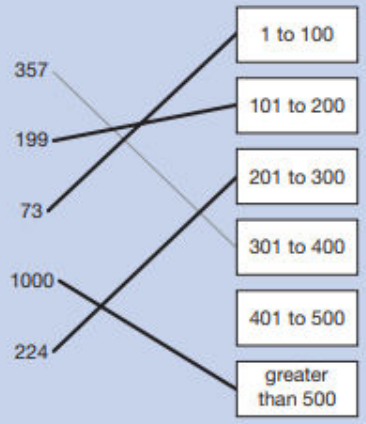
Key Stage 2: 2008 Paper A

2.

| | | | |
|---|---|---|---|
| ***14*** | 19.42 | ***1m*** | |

Key Stage 2: 2008 Paper B

1.

| | | | |
|---|---|---|---|
| ***1*** | Award **TWO** marks for the four lines drawn as shown:<br>  <br><br>If the answer is incorrect, award **ONE** mark for three correct lines drawn **AND** not more than one incorrect line drawn. | ***Up to 2m*** | ***Do not*** *award any marks if two or more incorrect lines are drawn.*<br>*Lines need not touch the boxes provided the intention is clear.* |

Key Stage 2: 2008 Paper B

2.

| | | | |
|---|---|---|---|
| ***23a*** | 33 | ***1m*** | *Accept 3 × 11* |
| ***23b*** | 16 | ***1m*** U1 | *Accept 19 – 3* |

Key Stage 2: 2009 Paper A

1.

| | | | |
|---|---|---|---|
| **2** | 74 + 26<br>**OR**<br>76 + 24 | **1m** | Numbers may be added in either order. |

Key Stage 2: 2009 Paper A

2.

| | | | |
|---|---|---|---|
| **14** | 0.2 **(0.25)** 0.4 0.45 0.6 **(0.75)** | **1m** | **Do not** award the mark if additional incorrect numbers are circled.<br>Accept alternative unambiguous indications, eg numbers ticked, crossed or underlined. |

Key Stage 2: 2009 Paper B

1.

| | | | |
|---|---|---|---|
| 1 | Award **TWO** marks for boxes ticked as shown:<br>☑<br>☑<br>☐<br>☐<br>☑<br>If the answer is incorrect, award **ONE** mark for only one correct box ticked, ie<br>☑ / ☑<br>☑ / ☐<br>☐ **OR** ☐<br>☐ / ☐<br>☐ / ☑<br>**OR**<br>one additional incorrect box ticked, ie<br>☑ / ☑<br>☑ / ☑<br>☑ **OR** ☐<br>☐ / ☑<br>☑ / ☑ | **Up to 2m** | Accept alternative unambiguous indications such as **x** or **Y**. |

Key Stage 2: 2009 Paper B

2.

| | | | |
|---|---|---|---|
| **16a** | C | **1m** | Accept 920 ÷ 80 **OR** 11.5 |
| **16b** | B | **1m** | Accept 820 ÷ 75 **OR** 10.9 **OR** 10.93 **OR** 10.933 etc. |

Key Stage 2: 2009 Paper B

3.

| | | | |
|---|---|---|---|
| **20a** | Answer in the range 76cm to 78cm inclusive. | **1m** | |
| **20b** | Answer in the range 3cm to 5cm inclusive. | **1m** | |

Key Stage 2: 2010 Paper A

1.

| | | | |
|---|---|---|---|
| **9** | Jack | **1m** | Accept unambiguous abbreviations or recognisable misspellings. |

Key Stage 2: 2010 Paper B

1.

| | | | |
|---|---|---|---|
| **22** | Award **TWO** marks for three rows ticked correctly as shown:<br><br>If the answer is incorrect, award **ONE** mark for two rows ticked correctly. | **Up to 2m** | Accept alternative unambiguous indications, eg **×** or **Y**. |

| | less than 1000 | equal to 1000 | more than 1000 |
|---|---|---|---|
| 5 × 15 × 25 | | | ✓ |
| 16 × (80.3 – 17.8) | | ✓ | |
| 3888 ÷ (4.32 – 0.57) | | | ✓ |
| (32 – 5.7) × (32 + 5.7) | ✓ | | |

Key Stage 2: 2011 Paper A

1.

| | | | |
|---|---|---|---|
| **2** | 5 × 6 – 30<br><br>**OR**<br><br>5 × 8 – 40 | **1m** | |

Key Stage 2: 2011 Paper A

2.

| | | | |
|---|---|---|---|
| **8** | Award **TWO** marks for all three pairs of numbers correct as shown:<br><br>5 + 6<br>3 + 7<br>1 + 8<br>2 + 4<br><br>If the answer is incorrect, award **ONE** mark for two pairs of numbers correct. | **Up to 2m**<br>U1 | Numbers within pairs may be given in either order. |

Key Stage 2: 2011 Paper A

3.

| | | | |
|---|---|---|---|
| 11 | Award **TWO** marks for all four symbols correct, as shown:<br>(<)<br>(>)<br>(=)<br>(>)<br>If the answer is incorrect, award **ONE** mark for three symbols correct. | **Up to 2m** | |

Key Stage 2: 2011 Paper A

4.

| | | | |
|---|---|---|---|
| 20 | 47 ÷ [100] = [0.47]<br>**AND**<br>[4.07] × [10] = 40.7 | **1m** | Numbers within calculations may be given in either order. |

Key Stage 2: 2011 Paper B

1.

| | | | |
|---|---|---|---|
| 2 | Calculations completed as shown:<br>[10] + [30] = [40]<br>[20] + [30] = [50] | **1m** | Calculations may be given in either order.<br>The first two numbers within each calculation may be given in either order. |

Key Stage 2: 2011 Paper B

2.

| | | | |
|---|---|---|---|
| 4 | Award **TWO** marks for four rows correct as shown:<br>☐ ☑<br>☑ ☐<br>☐ ☑<br>If the answer is incorrect, award **ONE** mark for three rows correct. | **Up to 2m** | Accept alternative unambiguous indications, eg **×** or **Y**. |

Key Stage 2: 2011 Paper B

3.

| | | | |
|---|---|---|---|
| **18** | An explanation which gives a counter-example to illustrate that halving a number that ends in 8 does not always give a number ending in 4, eg:<br>■ '18 doesn't work'<br>■ 'It could end in a 9'<br>■ 'Double 49 is 98'<br>■ '58 ÷ 2 = 29'<br>■ 'Half of 8 is 4 but half of 18 doesn't end in 4'<br>■ '18, 28, 38, 48, 58, 68 – only half of them work'<br>■ 'It has to have an even number of 10s, like 28 or 88'<br>■ '38' | **1m**<br>U1 | No mark is awarded for circling 'No' alone.<br>**Do not** accept vague or incomplete explanations, eg:<br>■ 'Half of them don't'<br>■ 'Half of 28 is 14'<br>■ 'Double 44 is 88'<br>If 'Yes' is circled but a correct, unambiguous explanation is given, then award the mark. |

Key Stage 2: 2011 Paper B

4.

| | | | |
|---|---|---|---|
| **25** | Award **TWO** marks for<br>Joe **10** **AND** **16**<br>**AND**<br>Dev **9** **AND** **15**<br>If the answer is incorrect, award **ONE** mark for:<br>■ three numbers correctly attributed<br>**OR**<br>■ 9 **AND** 10 **AND** 15 **AND** 16 with some or all attributed to the wrong child. | **Up to 2m**<br>U1 | Joe's even numbers may be given in either order.<br>Dev's odd numbers may be given in either order. |

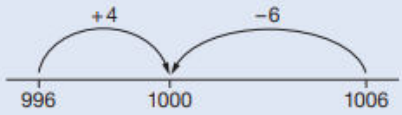
Key Stage 2: 2012 Paper B L6

1.

| | | | |
|---|---|---|---|
| **4** | B | **1m** | ✓ ***Unambiguous indication*** |

Key Stage 2: 2012 Paper A

1.

| | | | |
|---|---|---|---|
| **3** | 996 circled, and an explanation that it is closer in value than 1006 to 1000, eg:<br>■ '996 is 4 less than 1000, but 1006 is 6 more'<br>■ '1000 – 996 = 4, 1006 – 1000 = 6'<br>■ 'It's closer by 2'<br>■  <br>■ 'Both end in 6 which means to the nearest ten they round up. So 996 rounds up to 1000, but 1006 rounds up to 1010'<br>■ '1006 is nearer 1010, but 996 is nearer 1000'<br>■ '996 is only 4 away'. | **1m**<br>U1 | No mark is awarded for circling 996 alone.<br>**Do not** accept vague or incomplete explanations, eg:<br>■ '1006 is further away'<br>■ '996 is less than 1000, but it is still closer than 1006'<br>If 996 is not circled, but a correct, unambiguous explanation is given, then award the mark. |

Key Stage 2: 2012 Paper B

1.

| | | | |
|---|---|---|---|
| **5** | Award **TWO** marks for four boxes ticked and crossed correctly as shown:<br>☑ ☒ ☑ ☒ ☑<br>If the answer is incorrect, award **ONE** mark for three boxes ticked and crossed correctly. | **Up to 2m** | Accept alternative unambiguous indications, eg **Y** or **N**.<br>For **TWO** marks accept:<br>☑ ☐ ☑ ☐ ☑ |

Key Stage 2: 2012 Paper B

2.

| | | | |
|---|---|---|---|
| **11a** | 0.7 | **1m** | Accept equivalent fractions. |
| **11b** | Answer in the range 0.3 to 0.35 exclusive | **1m** | Accept fractions, eg $\frac{1}{3}$<br>**Do not** accept 0.3 **OR** 0.35<br>If the answer to 11a is in the range 0.3 to 0.35 exclusive **AND** the answer to 11b is 0.7, then award **ONE** mark for 11b. |

Key Stage 2: 2013 Paper A

1.

| | | | |
|---|---|---|---|
| **12** | Award **TWO** marks for all four values correct as shown:<br>15 × 100 = **1500**<br>**150** × 10 = 1500<br>**15000** ÷ 100 = 150<br>150 ÷ 10 = **15**<br>If the answer is incorrect, award **ONE** mark for three values correct. | **Up to 2m** | |

Key Stage 2: 2013 Paper A

2.

| | | | |
|---|---|---|---|
| **15** | **M**egan, **C**hen, **A**lfie, **N**ina | **1m**<br>U1 | Accept other unambiguous abbreviations or recognisable misspellings. |

Key Stage 2: 2013 Paper B

1.

| | | | |
|---|---|---|---|
| **2** | 16 | **1m** | |

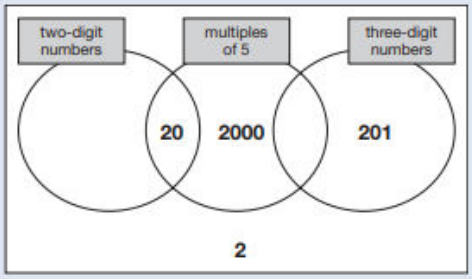
Key Stage 2: 2013 Paper B

2.

| | | | |
|---|---|---|---|
| **4a** | C | **1m** | Accept alternative unambiguous indications. |
| **4b** | E | **1m** | Accept alternative unambiguous indications. |

Key Stage 2: 2014 Paper A

1.

| | | | |
|---|---|---|---|
| **9** | Award **TWO** marks for all four numbers correctly placed as shown:<br>  <br><br>If the answer is incorrect, award **ONE** mark for three numbers correctly placed. | **Up to 2m** | **Do not** accept numbers written in more than one region.<br>Accept alternative unambiguous indications, eg lines drawn from the numbers to the appropriate regions of the diagram. |

Key Stage 2: 2014 Paper B

1.

| | | | |
|---|---|---|---|
| **17** | Any two numbers which total 40, eg:<br>■ 10 and 30<br>■ 20 and 20<br>■ 0 and 40<br>■ 1 and 39 | **1m** | Accept negative numbers and decimals. |

Key Stage 2: 2015 Paper A

1.

| | | | |
|---|---|---|---|
| **23** | A counter-example or an explanation that shows Alfie is incorrect, eg:<br>■ 'It doesn't work when one of the numbers is 1'<br>■ '1 × 99 = 99, and 99 is not less than 99'<br>■ 'It's not true for zero'<br>■ '0 × 5 = 0, and 0 is less than 5'<br>■ 'It doesn't work for fractions less than 1'<br>■ '0.5 × 8 = 4, and 4 is less than 8'<br>■ 'If one number is negative and the other is positive, the answer is negative' | **1m**<br>U1 | No mark is awarded for circling '**No**' alone.<br>**Do not** accept vague or incomplete explanations, eg:<br>■ 'It's not always true'<br>■ 'It doesn't work when one of the numbers is small'<br>If 'Yes' is circled but a correct, unambiguous explanation is given then award the mark. |

Key Stage 2: 2016 Paper 2 Reasoning - Sample

1.

| | | | |
|---|---|---|---|
| **12** | 1.75 | **1m** | |

Key Stage 2: 2016 Paper 3 Reasoning - Sample

1.

| | | | |
|---|---|---|---|
| **6** | Award **TWO** marks for all three calculations completed correctly, as shown:<br>5.3 **÷ 10** = 0.53<br>5.3 **× 1000** = 5300<br>5.3 **÷ 100** = 0.053<br>If the answer is incorrect, award **ONE** mark for two calculations correct. | **Up to 2m** | |

Key Stage 2: 2016 Paper 3 Reasoning

1.

| | | | |
|---|---|---|---|
| **4a** | △ = 32 | **1m** | |
| **4b** | ○ = 18 | **1m** | If the answers to ○ and △ are incorrect, award **ONE** mark if △ + ○ = 50 unless ○ = 25 |

Key Stage 2: 2016 Paper 3 Reasoning

2.

| | | | |
|---|---|---|---|
| **13** | Award **TWO** marks for the correct answer of 15<br>If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.<br>• 4.5 × 3 = 13.5<br>13.5 – 6 = 7.5<br>7.5 × 2 | **Up to 2m** | Answer need not be obtained for the award of **ONE** mark.<br>Misreads are **not** allowed. |

Key Stage 2: 2016 Paper 3 Reasoning

3.

| | | | |
|---|---|---|---|
| **21** | An explanation that shows that 5,868 can be made by adding 326 to 17 × 326, e.g.<br>• '5542 + 326 = 18 × 326'<br>• '18 × 326 is 326 more than 5,542'<br>• 'Because this is the same as 17 × 326 = 5542 so add one more 326 to get the answer'<br>• 'You add 326 to 5,542 and your answer will be correct'<br>• 'Because you can add 326 to the answer of 17 × 326'<br>• '5542 + 326'. | **1m** | **Do not** accept an explanation that simply calculates 326 × 18 = 5,868<br>**Do not** accept vague or incomplete, or incorrect explanations, e.g.<br>• 'You could add another 326'<br>• 'The difference between 17 and 18 is 1 so you add 326 and that is one more'<br>• 'Because if you turn the question around you would see that 17 × 326 = 5542 so all you need to do is times the number one more time'<br>• '5,542 + 326 because it is one more'.<br>• 5868 – 326 = 5542 |

Key Stage 2: 2017 Paper 3 Reasoning

1.

| | | | |
|---|---|---|---|
| **18** | Both numbers correct as shown:<br>9 (square number) + 13 (prime number) = 22 | **1m** | Numbers must be in the correct order.<br>**Do not** accept:<br>$3^2$ (square number) + 13 (prime number) = 22 |

Key Stage 2: 2017 Paper 3 Reasoning

2.

| | | | |
|---|---|---|---|
| **19** | Award **TWO** marks for 12 **AND** 13<br>If the answer is incorrect, award **ONE** mark for:<br>• only one correct number and no incorrect number<br>**OR**<br>• 12 **AND** 13 **AND** not more than one incorrect number. | **Up to 2m** | Accept for **ONE** mark an answer of 48 **AND** 52 **AND** no more than one incorrect number. |

Key Stage 2: 2018 Paper 2 Reasoning

1.

| | | | |
|---|---|---|---|
| **16** | Award **TWO** marks for two boxes ticked correctly, as shown:<br><br>add 3 then subtract 90 ☐<br>subtract 100 then add 3 ☑<br>subtract 7 then subtract 90 ☑<br>subtract 3 then subtract 100 ☐<br><br>If the answer is incorrect, award **ONE** mark for:<br>• only one box ticked correctly and no incorrect boxes ticked<br>**OR**<br>• two boxes ticked correctly and one incorrect box ticked. | **Up to 2m** | Accept alternative unambiguous positive indication of the correct answer, e.g. Y. |

Key Stage 2: 2018 Paper 3 Reasoning

2.

| | | | |
|---|---|---|---|
| **19** | Award **TWO** marks for numbers completed, as shown:<br><br>354 × 9.5 = **3,363**<br>3,540 × 95 = **336,300**<br>3,363 ÷ 95 = **35.4**<br><br>Award **ONE** mark for any two numbers completed correctly. | **Up to 2m** | **Do not** accept transcription errors or misreads for this question. |

Key Stage 2: 2019 Paper 2 Reasoning

1.

| | | | |
|---|---|---|---|
| **2** | 8,072 | **1m** | |

Key Stage 2: 2019 Paper 2 Reasoning

2.

| | | | |
|---|---|---|---|
| **9** | Award **TWO** marks for the correct answer of 124<br><br>If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.<br>• 953 – 85 = 868<br>868 ÷ 7 | **Up to 2m** | Answer need not be obtained for the award of **ONE** mark.<br><br>If the pupil's evaluation contradicts the appropriate method, the method mark will not be awarded. |

Key Stage 2: 2019 Paper 3 Reasoning

1.

| | | | |
|---|---|---|---|
| **5** | Addition completed, as shown<br><br>**1** 2 **8** + **7** 2 = 2 0 0 | **1m** | All numbers must be correct for the award of the mark. |

Key Stage 2: 2019 Paper 3 Reasoning

2.

| | | | |
|---|---|---|---|
| **8** | Award **TWO** marks for the correct answer of 1,356<br><br>If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.<br>• 4289 + 355 = 4644<br>6000 – 4644 =<br>**OR**<br>• 6000 – 4289 – 355 =<br><br>**OR**<br>• 6000 – 4289 = 1711<br>1711 – 355 = | **Up to 2m** | Answer need not be obtained for the award of **ONE** mark. |