**Limits of Accuracy - Advanced**

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| Name : | Class : | Date : |

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| **1)** The number 82 has been rounded to the nearest unit. Find its lower and upper bounds.       | [1]   |
| **2)** The number 24 has been rounded to the nearest whole number. Find its lower and upper bounds.       | [1]   |
| **3)** The number 400 has been rounded to the nearest 100. Find its lower and upper bounds.       | [1]   |
| **4)** The number 41.5 has been rounded to the nearest tenth. Find its lower and upper bounds.       | [1]   |
| **5)** The number 300 has been rounded to 1 significant figure. Find its lower and upper bounds.       | [1]   |
| **6)** Find the upper and lower bounds of a  $×$ b, where a = 13 and b = 8 (both have been rounded to the nearest integer).       | [1]   |
| **7)** Find the upper and lower bounds of  $\frac{a}{b}$, where a = 8 and b = 6 (both have been rounded to the nearest whole number).       | [1]   |
| **8)** Find the upper and lower bounds of a  $+$ b, where a = 9 and b = 8 (both have been rounded to the nearest whole number).       | [1]   |
| **9)** Find the upper and lower bounds of a $-$ b, where a = 10 and b = 8 (both have been rounded to the nearest whole number).       | [1]   |
| **10)** The weight of a table is 11 kg, correct to the nearest kg.Find the smallest possible weight of the table.       | [1]   |
| **11)** The distance between two towns is 50 miles, rounded to the nearest 10 miles.Find the maximum possible distance between them.       | [1]   |
| **12)** Caitlin drives 7 km (correct to the nearest km) to work, in 28 minutes (correct to the nearest minute). Find the greatest possible average speed in kilometers per hour.       | [1]   |

**Solutions for the assessment Limits of Accuracy - Advanced**

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| **1)** 81.5  $\leq $ 82  $<$ 82.5 | **2)** 23.5  $\leq $ 24  $<$ 24.5 |
| **3)** 350  $\leq $ 400  $<$ 450 | **4)** 41.45  $\leq $ 41.5  $<$ 41.55 |
| **5)** 250  $\leq $ 300  $<$ 350 | **6)** 93.75  $\leq $ a  $×$ b  $<$ 114.75 |
| **7)** 1.154  $\leq $  $\frac{a}{b}$  $<$ 1.545 | **8)** 16  $\leq $ a  $+$ b  $<$ 18 |
| **9)** 1  $\leq $ a  $-$ b  $<$ 3 | **10)** 10.5 kg |
| **11)** 55 miles | **12)** 16.4 km/h |