1.4 Place Value, Ordering and Rounding: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write each number in words.

(a) 324 **(1)**

(b) 7 405 (write with spaces as thousands separator shown) **(1)**

(c) 0.3 **(1)**

(d) 12.07 **(1)**

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2 Which digit is in the tens place in the number 6 052?

(a) State the digit in the tens place. **(2)**

---

3 Classify each statement as true or false. Give a short reason for any false statement.

(a) 0.300 rounded to 2 significant figures is 0.30. **(2)**

(b) Rounding 4.95 to 1 decimal place gives 5.0. **(2)**

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4 A measurement is 0.0702 m. Give this measurement to 2 significant figures and explain why zeros are counted or not counted.

(a) Give 0.0702 to 2 significant figures and explain which zeros count. **(3)**

5 Final problem: A shop advertises a jug holding 1.25 litres. A customer pours out 0.378 litres. How much remains in the jug? Give your answer to 3 decimal places.

(a) Work out how much remains and round to 3 decimal places. **(2)**

6 Round 1.8402 to 2 decimal places.

(1)

7 Given that 43 x 37 = 1591, work out 0.43 x 0.37.

(2)

8 Given that 41 x 30 = 1230, work out 12.3 ÷ 0.3.

(2)

9 Round 1090880 to 2 significant figures.

(2)

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10 Round each number to one decimal place.

(a) 3.46 **(1)**

(b) 12.01 **(1)**

(c) 0.999 **(1)**

(d) 4.24 **(1)**

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11 Write these numbers in order, largest first.
9.902, 9.934, 9.623, 9.006, 9.066

(2)

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12 Write these numbers in order, largest first.
-1, -6, 5, -7, -10, 3

(2)

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13 In the number 457.316, what is the value of the digit 3?

(1)

---

14 Round 0.64083 to 3 decimal places.

(1)

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15 Write these numbers in order, largest first: 0.8, 7/8, 0.79, 0.803

(2)

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16 A number, when rounded to the nearest 10, is 350. Write down the smallest and the largest whole numbers it could have been.

(2)

---

17 Four friends' times for a race are 58.7, 58.65, 59.02 and 58.699 seconds. Write these times in order from fastest (smallest time) to slowest (largest time).

(3)

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18 A factory produces 2,375 items per day. Round the daily production to 2 significant figures, then use this rounded value to estimate the total production over 30 days.

(3)

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19 A whole number, N, rounds to 250 when rounded to the nearest 10, and rounds to 200 when rounded to the nearest 100. Find the smallest possible value of N.

(3)

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Mark scheme · 1.4 Place Value, Ordering and Rounding: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) three hundred and twenty-four cao **B1**

(a) Answer: **three hundred and twenty-four**

(b) seven thousand four hundred and five cao **B1**

(b) Answer: **seven thousand four hundred and five**

(c) three tenths or zero point three cao **B1**

(c) Answer: **three tenths**

(d) twelve point zero seven or twelve and seven hundredths cao **B1**

(d) Answer: **twelve point zero seven**

Question 2

(a) identify places correctly or show working **M1**

(a) 5 cao **A1**

(a) Answer: **5**

Question 3

(a) identify how significant figures work and state conclusion **M1**

(a) True; 0.300 has first two significant digits 3 and 0 so 0.30 cao **A1**

(a) Answer: **True; 0.30**

(b) apply rounding rule to 4.95 **M1**

(b) True; 4.95 -> 5.0 cao **A1**

(b) Answer: **True; 5.0**

Question 4

(a) correct rounding to 2 SF: the first two significant digits are 7 and 0 (counting starts at the first non-zero digit); the next digit is 2, so round down **M1**

(a) show explanation that leading zeros do not count as significant **M1**

(a) 0.070 m cao **A1**

(a) Answer: **0.070; leading zeros before the 7 are not significant so the first two significant figures are 7 and 0**

Question 5

(a) correct subtraction 1.25 - 0.378 = 0.872 or shown working **M1**

(a) 0.872 litres cao **A1**

(a) Answer: **0.872 litres**

Question 6

1.84 cao **B1**

Answer: **1.84**

Question 7

uses 1591 with the decimal places counted (2 + 2 = 4 in total) **M1**

0.1591 cao **A1**

Answer: **0.1591**

Question 8

scales both numbers to whole numbers, eg 1230 ÷ 30 = 41 seen **M1**

41 cao **A1**

Answer: **41**

Question 9

identifies the first significant figure and looks at the digit after the required place **M1**

1100000 cao **A1**

Answer: **1100000**

Question 10

(a) 3.5 cao **B1**

(a) Answer: **3.5**

(b) 12.0 cao **B1**

(b) Answer: **12.0**

(c) 1.0 cao **B1**

(c) Answer: **1.0**

(d) 4.2 cao **B1**

(d) Answer: **4.2**

Question 11

at least three numbers in the correct relative order or all compared to the same number of decimal places **M1**

9.934, 9.902, 9.623, 9.066, 9.006 cao **A1**

Answer: **9.934, 9.902, 9.623, 9.066, 9.006**

Question 12

at least four numbers in the correct relative order **M1**

5, 3, -1, -6, -7, -10 cao **A1**

Answer: **5, 3, -1, -6, -7, -10**

Question 13

0.3 cao **B1**

Answer: **0.3**

Question 14

0.641 cao **B1**

Answer: **0.641**

Question 15

converts 7/8 to 0.875 and compares all four decimals oe **M1**

correct order cao **A1**

Answer: **7/8, 0.803, 0.8, 0.79**

Question 16

identifies the boundaries as 345 and 355 **M1**

smallest 345, largest 354 cao **A1**

Answer: **smallest 345, largest 354**

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Question 17

writes all four times to the same number of decimal places for comparison: 58.700, 58.650, 59.020, 58.699 oe	**M1**
correctly identifies the smallest and largest values	**M1**
fully correct order: 58.65, 58.699, 58.7, 59.02 cao	**A1**

Answer: **58.65, 58.699, 58.7, 59.02**

Question 18

rounds 2,375 to 2 sf: 2,400 (oe)	**M1**
correct method: 2,400 x 30	**M1**
72,000 cao	**A1**

Answer: **72,000**

Question 19

identifies the range for the nearest-10 condition: 245 to 254	**M1**
identifies the range for the nearest-100 condition: 150 to 249, and combines the two ranges	**M1**
245 cao	**A1**

Answer: **245**

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