1.4 Place Value, Ordering and Rounding: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 In the number 758.324, what is the value of the digit 8?

(1)

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2 A lorry carried 78182 kilograms of sand. Round this number to the nearest 1000.

(1)

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3 Write each number in standard form if it is 1 000 or more, or say 'not required' if it is less than 1 000.

(a) 5 200 **(1)**

(b) 34 **(1)**

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4 Order these numbers from smallest to largest. Give answers as decimals.

(a) 3 1/2, 3.49, 3.505 **(2)**

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5 A baker uses 2.75 kg of flour each day. Estimate how much flour is used in 7 days by rounding 2.75 to 1 decimal place first.

(a) Round 2.75 to 1 decimal place, then multiply by 7 to estimate total. **(3)**

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6 Round 0.0083105 to 2 significant figures.

(2)

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7 Given that 38 x 19 = 722, work out 72.2 ÷ 0.19.

(2)

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8 Given that 15 x 32 = 480, work out 1.5 x 3.2.

(2)

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9 What is the value of the digit 5 in each number?

(a) In 5 638 **(1)**

(b) In 482.5 **(1)**

(c) In 0.056 **(1)**

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10 A stadium's attendance, correct to the nearest 100, is given as 4,600. Assuming a whole number of people attend, write down the smallest and the largest possible number of people who could have attended.

(3)

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11 A four-digit number has the form 3d64, where d is a single digit (the hundreds digit). When rounded to the nearest 100, the number is 3,700. Find the value of d, showing your reasoning.

(3)

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Mark scheme · 1.4 Place Value, Ordering and Rounding: 30-minute Pack

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

Question 1

8 cao	B1

Answer: **8**

Question 2

78000 cao	B1

Answer: **78000**

Question 3

(a) 5.2×10^3 oe	B1

(a) Answer: **5.2×10^3**

(b) not required cao	B1

(b) Answer: **not required**

Question 4

(a) convert 3 1/2 to 3.5 and compare decimals	M1
(a) 3.49, 3.5, 3.505 cao	A1

(a) Answer: **3.49, 3.5, 3.505**

Question 5

(a) correct rounding to 1 decimal place: 2.8 or equivalent shown	M1
(a) correct multiplication 2.8 x 7 = 19.6 shown	M1
(a) 19.6 kg cao	A1

(a) Answer: **19.6 kg**

Question 6

identifies the first significant figure and looks at the digit after the required place	M1
0.0083 cao	A1

Answer: **0.0083**

Question 7

scales both numbers to whole numbers, eg 722 ÷ 19 = 38 seen	M1
380 cao	A1

Answer: **380**

Question 8

uses 480 with the decimal places counted (1 + 1 = 2 in total)	M1
4.8 cao	A1

Answer: **4.8**

Question 9

(a) 5 thousand or 5 000 cao	B1

(a) Answer: **5 000**

(b) five tenths or 0.5 cao	B1

(b) Answer: **0.5**

(c) five hundredths or 0.05 cao	B1

(c) Answer: **0.05**

Question 10

identifies the lower boundary as 4,550	M1
identifies the upper boundary as one less than 4,650, since 4,650 itself would round to 4,700	M1
smallest 4,550, largest 4,649 cao	A1

Answer: **smallest 4,550, largest 4,649**

Question 11

identifies that numbers rounding to 3,700 (nearest 100) lie from 3,650 to 3,749	M1
tests digit values and finds that 3d64 lies in this range only when d = 6, giving 3,664	M1
d = 6 cao	A1

Answer: **d = 6**

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