1.4 Place Value and Number Depth: Test Pack

National Curriculum (2014) Mathematics - KS2 Number: Place Value to 10,000,000, Rounding, Negative Numbers, Powers of 10 · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 In the number 5,847,213, what is the value of the digit 8?

(1)

2 Round 6,132 to the nearest ten.

Answer: ___

(1)

3 Estimate 1,000 + 6,917 by rounding each number to the nearest 1,000 first.

Answer: ___

(2)

4 17 x ___ = 1700

Answer: ___

(1)

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5 A whole number rounds to 5,300,000 when rounded to the nearest 100,000. Give the smallest and the largest number it could have been.

(2)

---

6 Use each of the digits 5, 8, 7, 2 once to make the largest possible 4-digit number.

Answer: ___

(2)

---

7 Write these numbers in order, starting with the largest.

95,724, 141,978, 92,858, 144,289

Answer: ___

(1)

---

8 James says: 'When you round 6,499,999 to the nearest million, the answer is 6,000,000.' Is James correct? Explain your answer.

(2)

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9 The temperature in Warsaw at 6 am is -7 degrees. By noon it has risen by 9 degrees.

What is the temperature at noon?

Answer: ___ degrees

(2)

---

10 A number line starts at 2,000 and goes up in equal steps of 1,000. An arrow points to the 3rd mark after the start.

What number does the arrow show?

Answer: ___

(1)

---

11 I am thinking of a 3-digit number. Here are some clues.

Clue 1: It has a digit sum of 7.
Clue 2: It has an odd ones digit.
Clue 3: It has hundreds digit 5.

What is my number?

Answer: ___

(2)

---

12 What is the value of the digit 5 in 6,345?

Answer: ___

(1)

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13 Find the missing number in this sequence.

9,508, 9,608, 9,708, 9,808, 9,908, ___

Answer: ___

(1)

---

14 Write <, > or = in the box.

32,395 [ ] 31,988

Answer: ___

(1)

---

15 A song was streamed 8,463,927 times in one week.

(a) Round 8,463,927 to the nearest 10,000. **(1)**

(b) Write the value of the digit 4 in 8,463,927. **(1)**

(c) The following week, the number of streams fell by exactly 100,000. Write the new total as a figure. **(1)**

(d) The record label estimates earnings of £2 for every 1000 streams. Using your rounded answer to part a, estimate the label's total earnings from the song that week. **(2)**

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16 Hamza draws a number line and marks -18 and 6 on it.

(a) Hamza marks the number that is exactly halfway between -18 and 6. What number does he mark? **(1)**

.....

(b) Hamza draws a different number line. He marks -18 and another number. The number exactly halfway between -18 and his other number is -4. What is his other number? **(2)**

.....

17 69 x ___ = 69000

Answer: ___

(1)

18 40.1 x 10 =

Answer: ___

(1)

19 Find the missing number in this sequence.

391, 386, 381, 376, 371, ___

Answer: ___

(1)

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20 Round 667,788 to the nearest thousand.

Answer: ___

(1)

---

21 Complete the partition.

738,053 = 700,000 + 30,000 + ___ + 50 + 3

Answer: ___

(1)

---

22 Use each of the digits 2, 9, 5, 3 once to make the largest possible 4-digit number.

Answer: ___

(2)

---

23 What is the value of the digit 7 in 247,135?

Answer: ___

(1)

---

24 Find the missing number in this sequence.

702, 699, 696, 693, 690, ___

Answer: ___

(1)

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25 Work out:

(a) 4.6 x 100 **(1)**

(b) 3,200 / 1000 **(1)**

(c) 0.07 x 10,000 **(1)**

(d) 85,000 / 100 **(1)**

26 Order these numbers, smallest to largest: 5,406,732 5,460,732 5,046,732 5,604,732

(2)

27 Write <, > or = between each pair of numbers.

(a) 2,098,431 ___ 2,100,000 **(1)**

(b) 6,750,000 ___ 675 x 10,000 **(1)**

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Mark scheme · 1.4 Place Value and Number Depth: Test Pack

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

Question 1

800,000 oe (accept eight hundred thousand) **B1**

Answer: **800,000**

Question 2

6,130 cao **B1**

Answer: **6,130**

Question 3

1,000 and 7,000 seen **M1**

8,000 cao **A1**

Answer: **8,000**

Question 4

100 cao **B1**

Answer: **100**

Question 5

identifies the boundary values 5,250,000 and 5,350,000 **M1**

smallest 5,250,000 and largest 5,349,999 cao **A1**

Answer: **Smallest: 5,250,000; largest: 5,349,999**

Question 6

digits placed in value order **M1**

8,752 cao **A1**

Answer: **8,752**

Question 7

144,289, 141,978, 95,724, 92,858 cao **B1**

Answer: **144,289, 141,978, 95,724, 92,858**

Question 8

states James is correct **B1**

valid explanation, e.g. the hundred-thousands digit is 4, which is less than 5, so the number rounds down to 6,000,000 oe **B1**

Answer: **Yes, James is correct.**

Question 9

adds the rise to the negative start **M1**

2 degrees cao **A1**

Answer: **2 degrees**

Question 10

5,000 cao **B1**

Answer: **5,000**

Question 11

uses at least two conditions to cut down the list **M1**

511 cao **A1**

Answer: **511**

Question 12

5 cao **B1**

Answer: **5**

Question 13

10,008 cao **B1**

Answer: **10,008**

Question 14

> cao **B1**

Answer: **>**

Question 15

(a) 8,460,000 cao **B1**

(a) Answer: **8,460,000**

(b) 400,000 cao **B1**

(b) Answer: **400,000**

(c) 8,363,927 cao **B1**

(c) Answer: **8,363,927**

(d) divides the rounded total by 1000 (8,460,000 / 1000 = 8,460) or equivalent method **M1**

(d) £16,920 cao, follow through from part a **A1**

(d) Answer: **£16,920**

Question 16

(a) -6 cao **B1**

(a) Answer: **-6**

(b) finds the distance from -18 to -4 as 14, or equivalent number line reasoning, e.g. -4 - (-18) = 14 **M1**

(b) 10 cao **A1**

(b) Answer: **10**

Question 17

1,000 cao **B1**

Answer: **1,000**

Question 18

401 cao **B1**

Answer: **401**

Question 19

366 cao **B1**

Answer: **366**

Question 20

668,000 cao **B1**

Answer: **668,000**

Question 21

8,000 cao **B1**

Answer: **8,000**

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Question 22

digits placed in value order **M1**

9,532 cao **A1**

Answer: **9,532**

Question 23

7,000 cao **B1**

Answer: **7,000**

Question 24

687 cao **B1**

Answer: **687**

Question 25

(a) 460 cao **B1**

(a) Answer: **460**

(b) 3.2 cao **B1**

(b) Answer: **3.2**

(c) 700 cao **B1**

(c) Answer: **700**

(d) 850 cao **B1**

(d) Answer: **850**

Question 26

correctly compares the hundred-thousands and ten-thousands digits to place at least 3 of the 4 numbers correctly **M1**

5,046,732, 5,406,732, 5,460,732, 5,604,732 cao, all four in the correct order **A1**

Answer: **5,046,732, 5,406,732, 5,460,732, 5,604,732**

Question 27

(a) < cao **B1**

(a) Answer: **2,098,431 < 2,100,000**

(b) = cao **B1**

(b) Answer: **6,750,000 = 675 x 10,000**

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