# 1.1 Reasoning: Number and Place Value: 30-minute Pack

STA KS2 National Curriculum Mathematics - STA Reasoning Test Framework · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

**1** A four-digit number has the form 4 _ _ 5, where the thousands digit is 4 and the ones digit is 5, and the two middle digits are unknown. The number is greater than 4,700 but less than 4,800, and the sum of all four digits is 20. Find the number, showing your reasoning.

**(4)**

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**2** The number of people at a festival was 246,850.

**(a)** Round 246,850 to the nearest 1,000. **(1)**

**(b)** Round 246,850 to the nearest 10,000. **(1)**

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**3** Write these numbers in order, starting with the smallest.

378,660, 381,222, 349,818, 394,975

Answer: ___

**(1)**


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**4** Estimate 5,758 - 4,860 by rounding each number to the nearest 1,000 first.

Answer: ___

**(2)**

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**5** The temperature at 4 pm is 2 degrees. By midnight it has fallen by 10 degrees.

What is the temperature at midnight?

Answer: ___ degrees

**(2)**

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**6** Write 15 as a Roman numeral.

Answer: ___

**(1)**

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**7** A number rounds to 3,600 when rounded to the nearest 100. Find the smallest possible number and the largest possible number it could be.

**(2)**

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**8** Complete the partition.

925,686 = 900,000 + 20,000 + 5,000 + 600 + ___ + 6

Answer: ___

**(1)**


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**9** What is 10 less than 604,568?

Answer: ___

**(1)**

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**10** Use each of the digits 2, 7, 4, 3 once to make the smallest possible 4-digit number.

Answer: ___

**(2)**

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**11** Look at this list of numbers: 21, 27, 29, 33, 41, 51. Circle the two prime numbers in the list.

**(2)**


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**12** Callum has 5,700 beads. Callum puts 4,276 aside and shares the rest equally between 8 friends.

How many beads does each friend get?

Answer: ___

**(2)**

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**13** A charity ran a sponsored walk. The organisers announced: "About 3,600 people took part, rounded to the nearest hundred." The exact number who took part was 3,647.

**(a)** Show that 3,647 rounds to 3,600 when rounded to the nearest hundred. **(1)**

**(b)** The actual attendance was later corrected to 3,652. Explain whether the rounded figure of "about 3,600" is still correct to the nearest hundred. **(2)**


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# Mark scheme · 1.1 Reasoning: Number and Place Value: 30-minute Pack

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

## Question 1

| | |
|---|---|
| recognises the hundreds digit must be 7, since 4,700 < number < 4,800 | M1 |
| forms the digit-sum equation, 4 + 7 + tens digit + 5 = 20, oe | M1 |
| tens digit = 4 cao | A1 |
| 4,745 cao, dependent on correct working | A1 |

Answer: **4,745**

## Question 2

| | |
|---|---|
| (a) 247,000 cao | B1 |

(a) Answer: **247,000**

| | |
|---|---|
| (b) 250,000 cao | B1 |

(b) Answer: **250,000**

## Question 3

| | |
|---|---|
| 349,818, 378,660, 381,222, 394,975 cao | B1 |

Answer: **349,818, 378,660, 381,222, 394,975**

## Question 4

| | |
|---|---|
| 6,000 and 5,000 seen | M1 |
| 1,000 cao | A1 |

Answer: **1,000**

## Question 5

| | |
|---|---|
| subtracts the fall from the start | M1 |
| -8 degrees cao | A1 |

Answer: **-8 degrees**

## Question 6

| | |
|---|---|
| XV cao | B1 |

Answer: **XV**

## Question 7

| | |
|---|---|
| one correct boundary identified, e.g. 3550 or 3649, oe | M1 |
| smallest = 3550 AND largest = 3649 cao | A1 |

Answer: **smallest = 3550, largest = 3649**

## Question 8

| | |
|---|---|
| 80 cao | B1 |

Answer: **80**

## Question 9

| | |
|---|---|
| 604,558 cao | B1 |

Answer: **604,558**

## Question 10

| | |
|---|---|
| digits placed in value order | M1 |
| 2,347 cao | A1 |

Answer: **2,347**

## Question 11

| | |
|---|---|
| 29 cao | B1 |
| 41 cao | B1 |

Answer: **29 and 41**

## Question 12

| | |
|---|---|
| 1,424 seen | M1 |
| 178 cao | A1 |

Answer: **178**

## Question 13

| | |
|---|---|
| (a) cso: correctly states the tens and ones digits (47) are less than 50, so the hundreds digit stays the same and 3,647 rounds down to 3,600 | B1 |

(a) Answer: **3,647 rounds to 3,600 (shown)**

| | |
|---|---|
| (b) correctly rounds 3,652 to the nearest hundred, i.e. 3,700, oe | M1 |
| (b) correct conclusion (no, it is no longer correct) with reason that the tens and ones digits (52) are 50 or more, cao | A1 |

(b) Answer: **No; 3,652 rounds to 3,700, not 3,600**


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