1.11 Reasoning: Number and Calculation: 30-minute Pack

Total Marks

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A car park has 7,360 spaces. 5,695 spaces are full and 784 are reserved.

How many spaces are free?

Answer: ___

(2)

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2 The sum of 4 consecutive numbers is 26.

What is the smallest of the 4 numbers?

Answer: ___

(2)

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3 Jade has 17,523 marbles. Jade is given 34,570 more and then gives away 34,678.

How many marbles does Jade have now?

Answer: ___

(2)

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4 Is 51 a prime number? Write Yes or No.

Answer: ___

(2)

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5 Estimate 5,937 + 7,586 by rounding each number to the nearest 1,000 first.

Answer: ___

(2)

---

6 Use each of the digits 8, 6, 4, 3 once to make the largest possible 4-digit number.

Answer: ___

(2)

---

7 The sum of 4 consecutive numbers is 242.

What is the smallest of the 4 numbers?

Answer: ___

(2)

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8 Sofia reads 64 pages in 80 minutes. At that rate, how many pages will she read in 3 hours 20 minutes? Show working.

(2)

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9 A cyclist travels 18.4 km in 55 minutes. What is the average speed in km per hour, to one decimal place? Show your working.

(2)

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10 Explain your answer. Two different methods are given to calculate 7/10 of 350. Method A: 350 ÷ 10 = 35, then 35 x 7 = 245. Method B: 350 x 0.7 = 245. Are both methods correct and why? Give a clear explanation.

(3)

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11 A school orders 48 boxes of pencils. Each box holds 24 pencils. The pencils are packed into pencil cases that hold 12 pencils each. How many pencil cases are needed to hold all the pencils?

(2)

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12 Which of these numbers is a prime number?

25, 56, 18, 53

Answer: ___

(1)

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13 Write all the prime numbers between 45 and 68.

Answer: ___

(1)

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Mark scheme · 1.11 Reasoning: Number and Calculation: 30-minute Pack

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

Question 1

6,479 seen	M1
881 cao	A1

Answer: **881**

Question 2

uses the mean or tests numbers	M1
5 cao	A1

Answer: **5**

Question 3

52,093 seen	M1
17,415 cao	A1

Answer: **17,415**

Question 4

gives a factor if not prime	M1
No cao	A1

Answer: **No**

Question 5

6,000 and 8,000 seen	M1
14,000 cao	A1

Answer: **14,000**

Question 6

digits placed in value order	M1
8,643 cao	A1

Answer: **8,643**

Question 7

uses the mean or tests numbers	M1
59 cao	A1

Answer: **59**

Question 8

Find pages per minute: 64/80 = 0.8 pages per minute or 4/5	M1
Convert 3 h 20 min to 200 minutes and multiply: 0.8 x 200 = 160 pages cao	B1

Answer: **160 pages**

Question 9

Convert 55 minutes to hours: 55/60 = 11/12 hours and set up speed = 18.4 / (11/12)	M1
Correct speed = 18.4 x 12/11 = 20.0727... so 20.1 km/h to one decimal place cao	B1

Answer: **20.1 km/h**

Question 10

Recognises both methods find same value and are equivalent	M1
Clear explanation linking fraction and decimal: 7/10 = 0.7 so both give 245, with correct reasoning cao	B2

Answer: **Both are correct. 7/10 = 0.7 so 350 x 7/10 = 350 x 0.7 = 245**

Question 11

Correct total pencils: 48 x 24 = 1,152	M1
Number of cases 1,152 / 12 = 96 cao	B1

Answer: **96 cases**

Question 12

53 cao	B1

Answer: **53**

Question 13

47, 53, 59, 61, 67 cao	B1

Answer: **47, 53, 59, 61, 67**

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