1.11 Reasoning: Number and Calculation: Test Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Amelia has 3,425 ml of paint. She pours 275 ml into one pot and 450 ml into another. She then uses the rest to fill small bottles of 125 ml each. How many full small bottles can she fill? Show your working.

(3)

---

2 Estimate 7,365 - 1,439 by rounding each number to the nearest 1,000 first.

Answer: ___

(2)

---

3 Daisy scored 14 out of 40 in a test.

Write this score as a percentage.

Answer: ___ %

(2)

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4 A bus journey takes 2 hours 45 minutes. If a driver completes 5 such journeys in a week, how many minutes does the driver spend driving on those journeys?

(2)

---

5 The sum of 5 consecutive odd numbers is 105.

What is the smallest of the 5 numbers?

Answer: ___

(2)

---

6 A shop reduces the price of a jacket by 15%. The original price is £84. What is the sale price? Show your working.

(3)

---

7 Complete the function machine. Input 24 gives output 6. Input 40 gives output 10. What is the rule of the function? Show the operation.

(2)

---

8 Multiply 3,206 by 4. Then subtract 1,078. Show your working and give the answer.

(2)

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9 There are 4 shelves. Each shelf holds 18 boxes. Each box contains 9 tins. How many tins are there in total? Then find the total if one shelf is removed and replaced with two extra shelves of the same size (so number of shelves changes by +1).

(2)

---

10 Plants cost £1.57 each. Amira buys 3 and pays with £20.

How much change does Amira get?

Answer: £___

(2)

---

11 Is 73 a prime number? Write Yes or No.

Answer: ___

(1)

---

12 Use each of the digits 9, 2, 4, 3 once to make the smallest possible 4-digit number.

Answer: ___

(2)

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13 Which of these numbers is a prime number?

55, 47, 56, 33

Answer: ___

(1)

---

14 What is the highest common factor of 42 and 35?

Answer: ___

(2)

---

15 Explain your answer. Yusuf says that doubling 3.75 gives 7.5 and then adding 1.25 gives 8.75. He uses this to find 3.75 x 2.5. Is Yusuf correct? Explain your answer.

(3)

---

16 Each coach has 48 seats. There are 66 pupils to carry.

What is the smallest number of coaches needed?

Answer: ___

(2)

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17 A museum sells tickets at £6.80 for children and £9.50 for adults. On one day they sell 42 child tickets and some adult tickets. The total takings are £618.10. How many adult tickets were sold?

(3)

---

18 A stadium had 2,989 fans on Saturday and 9,232 fans on Sunday.

How many more fans came on the busier day?

Answer: ___

(2)

---

19 Use each of the digits 6, 2, 3, 5 once to make the smallest possible 4-digit number.

Answer: ___

(2)

---

20 Order these numbers from smallest to largest: 0.208, 208/1000, 0.28

(2)

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21 Write all the prime numbers between 63 and 74.

Answer: ___

(2)

---

22 Reece has 55 flowers. Reece gives 1/5 of them to a friend.

How many flowers does Reece give to the friend?

Answer: ___

(1)

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Mark scheme · 1.11 Reasoning: Number and Calculation: Test Pack

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

Question 1

Correct subtraction to find remaining paint: 3,425 - 275 - 450 = 2,700 ml	M1
Division of remainder by 125 gives 21 full bottles (21 cao)	B2

Answer: **21 bottles**

Question 2

7,000 and 1,000 seen	M1
6,000 cao	A1

Answer: **6,000**

Question 3

converts to a fraction out of 100	M1
35% cao	A1

Answer: **35%**

Question 4

Convert 2 hours 45 minutes to minutes: 2 x 60 + 45 = 165 minutes	M1
Total for 5 journeys 165 x 5 = 825 minutes cao	B1

Answer: **825 minutes**

Question 5

uses the mean or tests numbers	M1
17 cao	A1

Answer: **17**

Question 6

Correct calculation of 15% of 84 = 0.15 x 84 = 12.6 or 12.60	M1
Sale price 84 - 12.60 = 71.40 cao	B2

Answer: **71.40**

Question 7

Recognises operation needed: dividing both inputs by 4 gives outputs	M1
Rule is divide by 4 or 'divide by 4' cao	B1

Answer: **Divide by 4**

Question 8

Correct multiplication 3,206 x 4 = 12,824	M1
Correct subtraction 12,824 - 1,078 = 11,746 cao	B1

Answer: **11,746**

Question 9

Total initially 4 x 18 x 9 = 648 tins	M1
After change shelves = 4 - 1 + 2 = 5 so 5 x 18 x 9 = 810 tins cao	B1

Answer: **Initially 648, then 810**

Question 10

1.57 x 3 = 4.71 seen	M1
£15.29 cao	A1

Answer: **£15.29**

Question 11

Yes cao	B1

Answer: **Yes**

Question 12

digits placed in value order	M1
2,349 cao	A1

Answer: **2,349**

Question 13

47 cao	B1

Answer: **47**

Question 14

lists the factors of each number	M1
7 cao	A1

Answer: **7**

Question 15

Identifies Yusuf's method: 3.75 x 2 = 7.5 and 3.75 x 0.5 = 1.875 (or notes adding 1.25 is incorrect)	M1
Conclusion that Yusuf is incorrect and correct product is 9.375 with clear explanation (9.375 cao)	B2

Answer: **Yusuf is incorrect. 3.75 x 2.5 = 9.375**

Question 16

66 / 48 = 1 remainder 18 seen	M1
2 cao	A1

Answer: **2**

Question 17

Find child takings: 42 x 6.80 = 285.60	M1
Remaining 618.10 - 285.60 = 332.50, adult tickets = 332.50 / 9.50 = 35 cao	B2

Answer: **35 adults**

Question 18

subtraction method seen	M1
6,243 cao	A1

Answer: **6,243**

Question 19

digits placed in value order	M1
2,356 cao	A1

Answer: **2,356**

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Question 20

Convert or compare decimals/fractions correctly, noting 208/1000 = 0.208	**M1**
States that 0.208 and 208/1000 are equal, with 0.28 the largest cao	**B1**

Answer: **0.208 = 208/1000 (equal, smallest), then 0.28 (largest)**

Question 21

checks factors of numbers in the range	**M1**
67, 71, 73 cao	**A1**

Answer: **67, 71, 73**

Question 22

11 cao	**B1**

Answer: **11**

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