10.3-10 Reasoning Practice Paper 10: 1-hour Pack

NATIONAL CURRICULUM KS2 National Curriculum Mathematics - Reasoning Practice Paper Framework · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 a and b are positive whole numbers. a + b = 13 and a x b is less than 65.

How many pairs (a, b) with a smaller than b satisfy both conditions?

Answer: ___

(3)

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2 2 postcards cost 168p.

How much do 4 postcards cost? Give your answer in pounds.

Answer: £___

(2)

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3 Jae and Wren share a bag of 40 marbles in the ratio 3:5. Work out how many marbles each person gets.

(3)

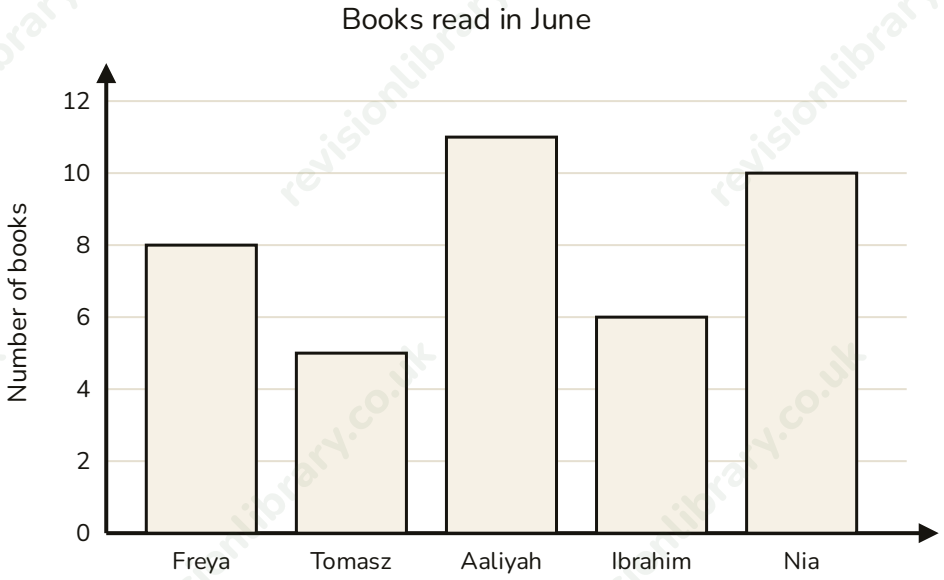
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4 A coat costs £68. In a sale it is reduced by 25%. Work out the sale price of the coat.

(3)

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5 The bar chart shows the number of books read in June by five children: Freya, Tomasz, Aaliyah, Ibrahim and Nia.



(a) Find the range of the number of books read. **(1)**

.....

(b) Calculate the mean number of books read. **(2)**

.....

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6 A school orders 18 boxes of pencils. Each box contains 24 pencils. The pencils are shared equally between 9 classes, then each class is given an extra 3 pencils from a leftover box. Work out how many pencils each class receives in total.

(3)

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7 Willow and Poppy share some money in the ratio 5:6. The difference between their shares is £12.

How much money is shared altogether?

Answer: £___

(2)

---

8 Sofia and Chloe share some money in the ratio 1:5. The difference between their shares is £16.

How much money is shared altogether?

Answer: £___

(2)

---

9 £1 = 10 euros.

A toy costs 280 euros. How much is that in pounds?

Answer: £___

(1)

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10 In a sale, a game costs £25. The price is reduced by 15%.

What is the sale price?

Answer: £___

(3)

---

11 3 x ___ + 22 = 79

Answer: ___

(2)

---

12 Jade and Kofi share some money in the ratio 6:1. The difference between their shares is £50.

How much money is shared altogether?

Answer: £___

(2)

---

13 The cost, C pounds, of hiring a bike for n hours is C = 4n + 16.

Work out C when n = 13.

Answer: £___

(2)

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14 T = 4x + 5y.

Work out T when x = 8 and y = 4.

Answer: ___

(2)

---

15 Kofi is 4 times as old as Jack. Together their ages add up to 40.

How old is Jack?

Answer: ___

(2)

---

16 Two whole numbers have a sum of 11 and a product of 30.

What are the two numbers? Write the smaller one first.

Answer: ___ and ___

(2)

---

17 Grace is 2 times as old as Lily. Together their ages add up to 15.

How old is Lily?

Answer: ___

(2)

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18 A number a is found using a = 3n - 3.

Work out a when n = 11.

Answer: ___

(2)

---

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

Clue 1: It has a digit sum of 27.
Clue 2: It has an odd ones digit.
Clue 3: It has hundreds digit 9.

What is my number?

Answer: ___

(3)

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20 A pen costs 5p. Mateo buys n pens.

Write an expression for the total cost in pence.

Answer: ___

(1)

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21 A shop sells 4 pencils for 93p and 8 pencils for 84p.

Which pack is better value for money? Write the number of pencils in the pack.

Answer: ___

(2)

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Mark scheme · 10.3-10 Reasoning Practice Paper 10: 1-hour Pack

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

Question 1

lists the pairs	M1
tests the product	M1
6 cao	A1

Answer: **6**

Question 2

168 divided by 2 = 84 seen	M1
£3.36 cao	A1

Answer: **£3.36**

Question 3

3 + 5 = 8 (total parts), 40 / 8 = 5 (value of one part) oe	M1
Jae = 3 x 5 = 15 cao	A1
Wren = 5 x 5 = 25 cao	A1

Answer: **Jae gets 15 marbles, Wren gets 25 marbles**

Question 4

10% of 68 = 6.80, so 25% = 6.80 x 2.5 = 17 (or equivalent method) oe	M1
68 - 17 = 51, dependent on correct 25% found	dM1
£51 cao	A1

Answer: **£51**

Question 5

(a) 6 cao	B1

(a) Answer: **6**

(b) 8 + 5 + 11 + 6 + 10 = 40 (total number of books) oe	M1
(b) 8 cao (40 / 5)	A1

(b) Answer: **8**

Question 6

18 x 24 = 432 (total pencils) oe	M1
432 / 9 = 48, dependent on correct total	dM1
51 cao (48 + 3)	A1

Answer: **51 pencils**

Question 7

1 parts = £12 so 1 part = £12 seen	M1
£132 cao	A1

Answer: **£132**

Question 8

4 parts = £16 so 1 part = £4 seen	M1
£24 cao	A1

Answer: **£24**

Question 9

£28 cao	B1

Answer: **£28**

Question 10

reduction found	M1
subtracts from the original price	M1
£21.25 cao	A1

Answer: **£21.25**

Question 11

79 - 22 = 57 seen	M1
19 cao	A1

Answer: **19**

Question 12

5 parts = £50 so 1 part = £10 seen	M1
£70 cao	A1

Answer: **£70**

Question 13

4 x 13 seen	M1
£68 cao	A1

Answer: **£68**

Question 14

4 x 8 or 5 x 4 seen	M1
52 cao	A1

Answer: **52**

Question 15

5 equal parts seen	M1
8 cao	A1

Answer: **8**

Question 16

tests pairs that add to the sum	M1
5 and 6 cao	A1

Answer: **5 and 6**

Question 17

3 equal parts seen	M1
5 cao	A1

Answer: **5**

Question 18

3 x 11 = 33 seen	M1
30 cao	A1

Answer: **30**

Question 19

uses at least two conditions to cut down the list	M1
tests candidates against all conditions	M1
999 cao	A1

Answer: **999**

Question 20

5n cao	B1

Answer: **5n**

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Question 21

finds the cost of one in each pack **M1**

8 cao **A1**

Answer: **8**

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