10.5 Reasoning Practice Paper: Test Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write in figures: "two hundred and forty-six thousand, eight hundred and five".

(a) Write the number in figures. **(1)**

(b) Circle the digit in the thousands place. **(1)**

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2 In a class of 36 pupils, 10 like football, 10 like netball and 6 like both.

How many pupils like neither?

Answer: ___

(2)

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3 Each minibus has 21 seats. There are 186 children to carry.

What is the smallest number of minibuses needed?

Answer: ___

(2)

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4 A number machine does the following to an input number: multiply by 4, then subtract 7. If the output is 29, what was the input number? Explain your answer.

(a) Find the input number and explain how you worked it out. **(3)**

5 A car travels 150 kilometres on 12 litres of petrol. How many kilometres per litre does the car travel? Give your answer to 1 decimal place.

(a) Find the kilometres per litre to 1 decimal place. **(3)**

6 Here is a number line from 0 to 1. Point A is at 2/5 and point B is at 3/4. Explain which point is closer to 1 and show how you know.

(a) Decide which point is closer to 1 and explain your working. **(4)**

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7 A square has sides of length 11 m.

What is its perimeter?

Answer: ___ m

Diagram NOT accurately drawn



(1)

8 The sum of 3 consecutive even numbers is 42.

What is the smallest of the 3 numbers?

Answer: ___

(2)

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9 A train finishes at 14:33 after taking 3 hours 37 minutes.

What time did it start? Write your answer as a 24-hour clock time.

Answer: ___

(2)

10 Daisy and Poppy share 286 football cards in the ratio 5:6.

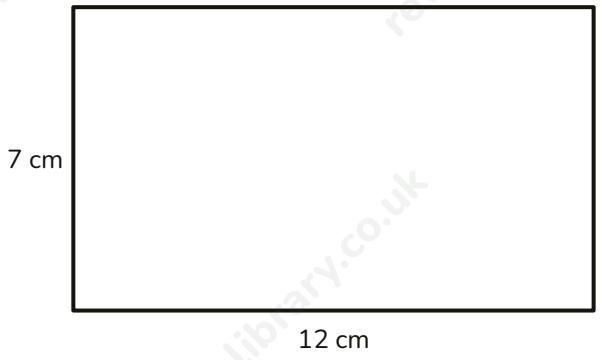
How many football cards does Daisy get?

Answer: ___

(3)

11 A rectangle has length 12 cm and width 7 cm. Calculate its perimeter.

Diagram NOT accurately drawn



(a) Find the perimeter in centimetres. **(2)**

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12 Here is a sequence: 12, 16, 20, 24, 28, ...

Write the next two terms.

Answer: ___, ___

(2)

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13 T = 3x + 5y.

Work out T when x = 4 and y = 2.

Answer: ___

(2)

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14 The sum of 4 consecutive even numbers is 116.

What is the smallest of the 4 numbers?

Answer: ___

(2)

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15 In a class of 37 pupils, 10 like tea, 6 like coffee and 2 like both.

How many pupils like neither?

Answer: ___

(2)

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16 The sum of 5 consecutive numbers is 240.

What is the smallest of the 5 numbers?

Answer: ___

(2)

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17 The sum of 3 consecutive numbers is 138.

What is the smallest of the 3 numbers?

Answer: ___

(2)

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18 The table shows the number of books read by a class in one month: Ali 6, Bella 9, Callum 3, Deena 12. What is the mean number of books read? Show your working.

(a) Find the mean number of books. **(3)**

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19 A shop sells 2 crayons for 55p and 10 crayons for 185p.

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

Answer: ___

(2)

20 T = 5x + 5y.

Work out T when x = 7 and y = 3.

Answer: ___

(2)

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Mark scheme · 10.5 Reasoning Practice Paper: Test Pack

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

Question 1

(a) 246,805 cao — **B1**

(a) Answer: **246,805**

(b) digit 6 in the thousands place identified (value 6,000) cao — **B1**

(b) Answer: **6**

Question 2

10 + 10 - 6 = 14 seen — **M1**

22 cao — **A1**

Answer: **22**

Question 3

186 / 21 = 8 remainder 18 seen — **M1**

9 cao — **A1**

Answer: **9**

Question 4

(a) Reverses subtract then divide: shows 29 + 7 = 36 — **M1**

(a) Divides by 4 to find input, 36 ÷ 4 = 9 — **M1**

(a) 9 cao — **A1**

(a) Answer: **9**

Question 5

(a) Divides distance by litres: 150 ÷ 12 seen — **M1**

(a) Rounds result correctly to 1 dp — **M1**

(a) 12.5 cao — **A1**

(a) Answer: **12.5**

Question 6

(a) Shows distance from 1 for A: 1 - 2/5 = 3/5 or 0.6 — **M1**

(a) Shows distance from 1 for B: 1 - 3/4 = 1/4 or 0.25 — **M1**

(a) Compares distances and states which is smaller — **M1**

(a) Point B is closer to 1, with correct reason cao — **A1**

(a) Answer: **Point B**

Question 7

44 m cao — **B1**

Answer: **44 m**

Question 8

uses the mean or tests numbers — **M1**

12 cao — **A1**

Answer: **12**

Question 9

subtracts hours then minutes — **M1**

10:56 cao — **A1**

Answer: **10:56**

Question 10

286 divided by 11 = 26 seen — **M1**

multiplies by their share — **M1**

130 cao — **A1**

Answer: **130**

Question 11

(a) Shows 2 x (12 + 7) or equivalent method — **M1**

(a) 38 cm cao — **A1**

(a) Answer: **38 cm**

Question 12

identifies the rule — **M1**

32, 36 cao — **A1**

Answer: **32, 36**

Question 13

3 x 4 or 5 x 2 seen — **M1**

22 cao — **A1**

Answer: **22**

Question 14

uses the mean or tests numbers — **M1**

26 cao — **A1**

Answer: **26**

Question 15

10 + 6 - 2 = 14 seen — **M1**

23 cao — **A1**

Answer: **23**

Question 16

uses the mean or tests numbers — **M1**

46 cao — **A1**

Answer: **46**

Question 17

uses the mean or tests numbers — **M1**

45 cao — **A1**

Answer: **45**

Question 18

(a) Adds values correctly, 6 + 9 + 3 + 12 = 30 — **M1**

(a) Divides by 4 to find mean — **M1**

(a) 7.5 cao — **A1**

(a) Answer: **7.5**

Question 19

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

10 cao — **A1**

Answer: **10**

Question 20

5 x 7 or 5 x 3 seen — **M1**

50 cao — **A1**

Answer: **50**

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