1.6 Reasoning and Problem Solving (Year 3): 1-hour Pack

Total Marks

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Tom has 15 more marbles than Uma. Together they have 71 marbles.

How many marbles does Uma have?

Answer: ___

(2)

---

2 Oscar eats 5/12 of a pizza on Monday and 5/12 on Tuesday.

What fraction of the pizza is left? Give your answer in its simplest form.

Answer: ___

(2)

---

3 In a class of 33 pupils, 13 like tea, 21 like coffee and 6 like both.

How many pupils like neither?

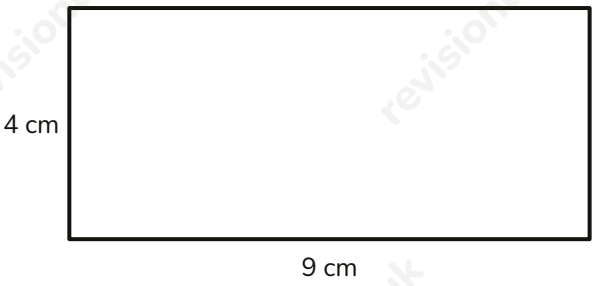
Answer: ___

(2)

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4 A rectangle has length 9 cm and width 4 cm. What is the perimeter of the rectangle?

Diagram NOT accurately drawn



(2)

---

5 There are 45 children in three classes. Each class has the same number of children. How many children are in each class? Then one child moves schools, so one class now has one fewer child. How many children are in that class now?

(3)

---

6 Stretch question. Priya has three boxes. Each box holds 8 toy cars. She wants to share all the toy cars equally between 5 children. What is the maximum whole number of cars each child can get and how many cars will be left over? Show your working.

(4)

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7 Jade has 22 more marbles than Olu. Together they have 92 marbles.

How many marbles does Olu have?

Answer: ___

(2)

---

8 A zoo had 706 visitors on Saturday and 703 visitors on Sunday.

How many more visitors came on the busier day?

Answer: ___

(1)

---

9 There are 5 rows of chairs with 5 chairs in each row. How many chairs are there?

Answer: ___

(1)

---

10 Victor buys 4 packs of postcards. Each pack has 12 postcards. How many postcards does Victor have?

Answer: ___

(1)

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11 Each minibus has 46 seats. There are 72 children to carry.

What is the smallest number of minibuses needed?

Answer: ___

(2)

---

12 Kiran has 12 notebooks and puts 4 in each box. How many boxes are filled?

Answer: ___

(1)

---

13 Ella buys 4 lollies at £1.06 each and 5 posters at £1.13 each. Ella pays with £10.

How much change does Ella get?

Answer: £___

(2)

---

14 Oscar has 66 pebbles. Oscar gives 1/6 of them to a friend.

How many pebbles does Oscar give to the friend?

Answer: ___

(2)

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15 Work out 2/6 of 96 cm.

Answer: ___

(2)

---

16 Amelia has 12 red pens and 8 blue pens. She buys 3 more packs of red pens with 4 pens in each pack. How many pens does she have now?

(2)

---

17 A coach leaves at 17:33 and arrives at 22:43.

How many minutes does it take?

Answer: ___ minutes

(1)

---

18 Ravi has 991 beads. Ravi puts 319 aside and shares the rest equally between 6 friends.

How many beads does each friend get?

Answer: ___

(2)

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19 Each tray has 7 spaces. There are 270 cakes to carry.

What is the smallest number of trays needed?

Answer: ___

(2)

---

20 A lesson starts at 19:18 and ends at 21:17.

How many minutes does it take?

Answer: ___ minutes

(2)

---

21 Hassan has 806 beads. Hassan is given 406 more and then gives away 844.

How many beads does Hassan have now?

Answer: ___

(2)

---

22 Kofi has 2,685 beads. Kofi puts 177 aside and shares the rest equally between 6 friends.

How many beads does each friend get?

Answer: ___

(2)

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23 Daisy buys 3 packs of badges. Each pack has 12 badges. How many badges does Daisy have?

Answer: ___

(1)

---

24 Quinn has 13 more marbles than Willow. Together they have 25 marbles.

How many marbles does Willow have?

Answer: ___

(2)

---

25 Layla buys 1 scarf at £1.24 each, 5 rulers at £2.63 each and 3 puzzles at 42p each. Layla pays with £20.

How much change does Layla get?

Answer: £___

(3)

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Mark scheme · 1.6 Reasoning and Problem Solving (Year 3): 1-hour Pack

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

Question 1

71 - 15 = 56 seen	M1
28 cao	A1

Answer: **28**

Question 2

10/12 eaten seen	M1
1/6 cao	A1

Answer: **1/6**

Question 3

13 + 21 - 6 = 28 seen	M1
5 cao	A1

Answer: **5**

Question 4

Correct addition or method shown, e.g. 2 x (9 + 4) or 9 + 9 + 4 + 4	M1
26 cm cao	B1

Answer: **26 cm**

Question 5

Correct division 45 ÷ 3 = 15 or equivalent shown	M1
Recognition of subtraction 15 - 1 = 14 or equivalent shown	M1
Answers 15 and 14 cao	B1

Answer: **15 and 14**

Question 6

Correct total cars calculated, e.g. 3 x 8 = 24	M1
Correct division 24 ÷ 5 shown with whole number and remainder	M1
Correct identification of whole number per child, e.g. 4 each	M1
Remainder stated: 4 cars left over cao	B1

Answer: **4 each, 4 left over**

Question 7

92 - 22 = 70 seen	M1
35 cao	A1

Answer: **35**

Question 8

3 cao	B1

Answer: **3**

Question 9

25 cao	B1

Answer: **25**

Question 10

48 cao	B1

Answer: **48**

Question 11

72 / 46 = 1 remainder 26 seen	M1
2 cao	A1

Answer: **2**

Question 12

3 cao	B1

Answer: **3**

Question 13

4.24 seen	M1
£0.11 cao	A1

Answer: **£0.11**

Question 14

divides by the denominator	M1
11 cao	A1

Answer: **11**

Question 15

96 divided by 6 = 16 seen	M1
32 cm cao	A1

Answer: **32 cm**

Question 16

Correct method seen: 3 x 4 = 12 or equivalent	M1
32 pens cao	B1

Answer: **32**

Question 17

310 minutes cao	B1

Answer: **310 minutes**

Question 18

672 seen	M1
112 cao	A1

Answer: **112**

Question 19

270 / 7 = 38 remainder 4 seen	M1
39 cao	A1

Answer: **39**

Question 20

counts on to the next hour or minutes calculation	M1
119 minutes cao	A1

Answer: **119 minutes**

Question 21

1,212 seen	M1
368 cao	A1

Answer: **368**

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Question 22

2,508 seen	M1
418 cao	A1

Answer: **418**

Question 23

36 cao	B1

Answer: **36**

Question 24

25 - 13 = 12 seen	M1
6 cao	A1

Answer: **6**

Question 25

1.24 seen	M1
total 15.65 seen	M1
£4.35 cao	A1

Answer: **£4.35**

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