1.8 Reasoning and Problem Solving (Year 4): 1-hour Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Jade eats 2/10 of a tray of flapjacks on Monday and 4/10 on Tuesday.

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

Answer: ___

(2)

---

2 A lesson finishes at 13:15 after taking 4 hours 24 minutes.

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

Answer: ___

(2)

---

3 In a class of 31 pupils, 21 like art, 12 like music and 7 like both.

How many pupils like neither?

Answer: ___

(2)

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4 Nia ran 2.4 km on Monday and 3.6 km on Tuesday. How many metres did she run in total over the two days?

(2)

---

5 A packet of 6 apples costs 78p. What is the cost of one apple in pence? Give your answer in pence.

(2)

---

6 Leah has played the violin for 3 years and 7 months. Her brother Aziz has played the violin for 52 months. Who has played the violin for longer, and by how many months?

(2)

---

7 A square field has sides that are each 35 m long. A farmer puts a fence all the way round the field. Fencing costs £6 for each metre. How much does the fencing cost?

(2)

---

8 A minibus seats 9 people. 62 people are going to a concert.

(a) How many minibuses are needed to seat all 62 people? **(1)**

.....

(b) How many empty seats will there be altogether? **(1)**

.....

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9 A red ribbon is 4 times as long as a blue ribbon. The red ribbon is 3 m 20 cm long. How long is the blue ribbon? Give your answer in centimetres.

(2)

---

10 Ella and Dan have 96 stickers altogether. Dan has 18 more stickers than Ella. How many stickers does Dan have? Show your working.

(3)

---

11 Mia has 3,784 stickers. Mia puts 3,310 aside and shares the rest equally between 3 friends.

How many stickers does each friend get?

Answer: ___

(2)

---

12 Priya buys 4 magnets at 41p each, 3 balloons at £1.44 each and 2 comics at £1.64 each. Priya pays with £10.

How much change does Priya get?

Answer: £___

(3)

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13 A coach finishes at 22:04 after taking 4 hours 20 minutes.

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

Answer: ___

(2)

14 A square has sides of length 16 cm.

What is its perimeter?

Answer: ___ cm

Diagram NOT accurately drawn



16 cm

(1)

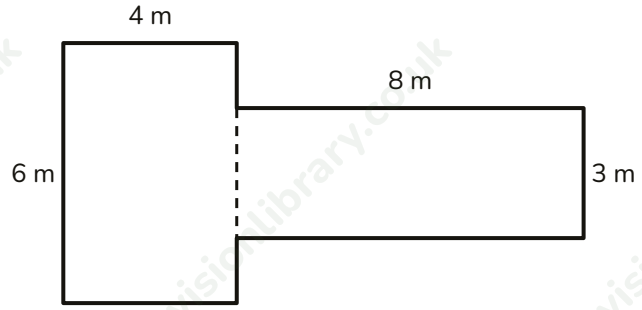
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15 An L-shape is made from two rectangles joined together. The first rectangle is 4 m by 6 m. The second is 8 m by 3 m.

What is the total area of the L-shape in square metres?

Answer: ___

Diagram NOT accurately drawn



(2)

---

16 A film finishes at 13:57 after taking 5 hours 29 minutes.

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

Answer: ___

(2)

---

17 A film starts at 06:58 and takes 1 hour 46 minutes.

What time does it finish? Write your answer as a 24-hour clock time.

Answer: ___

(2)

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18 Daisy has 24 pencils and puts 6 in each box. How many boxes are filled?

Answer: ___

(1)

---

19 In a class of 31 pupils, 26 like swimming, 12 like cycling and 8 like both.

How many pupils like neither?

Answer: ___

(2)

---

20 A museum had 8,125 visitors in May and 9,504 visitors in June.

How many visitors did it have altogether?

Answer: ___

(2)

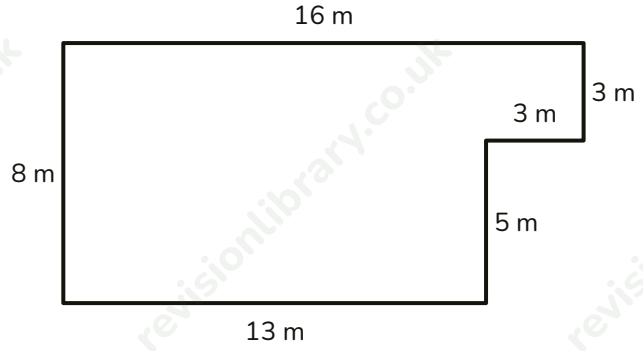
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21 An L-shaped floor has these sides in order around the shape: 16 m, 3 m, 3 m, 5 m, 13 m, 8 m.

What is the perimeter of the floor?

Answer: ___ m

Diagram NOT accurately drawn



(1)

---

22 Mia has 3 boxes with 3,123 beads in each box and 7,222 loose beads.

How many beads does Mia have altogether?

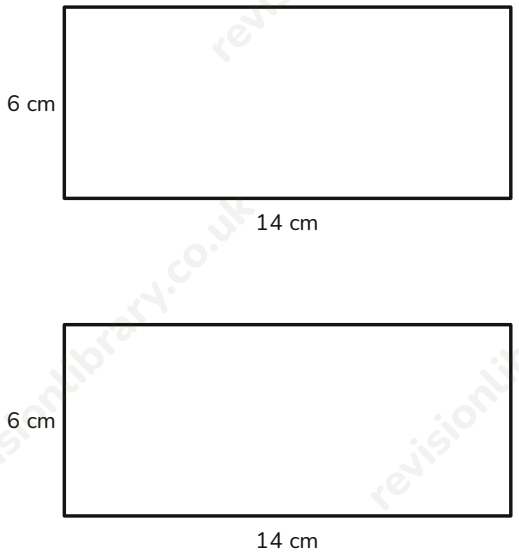
Answer: ___

(2)

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23 A rectangle has length 14 cm and width 6 cm. Sara draws the same rectangle 3 times to make a strip. What is the total area of the strip in square centimetres?

Diagram NOT accurately drawn



(2)

24 A stadium had 8,979 fans on Saturday and 2,037 fans on Sunday.

How many more fans came on the busier day?

Answer: ___

(2)

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Mark scheme · 1.8 Reasoning and Problem Solving (Year 4): 1-hour Pack

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

Question 1

6/10 eaten seen	M1
2/5 cao	A1

Answer: **2/5**

Question 2

subtracts hours then minutes	M1
08:51 cao	A1

Answer: **08:51**

Question 3

21 + 12 - 7 = 26 seen	M1
5 cao	A1

Answer: **5**

Question 4

Convert to metres or add decimals then convert: 2.4 + 3.6 = 6.0 km	M1
6000 m cao	B1

Answer: **6000**

Question 5

Division 78 ÷ 6 or equivalent grouping seen	M1
13 cao	B1

Answer: **13**

Question 6

converts one length of time so both are in the same unit: 3 years 7 months = 43 months (3 x 12 + 7), or 52 months = 4 years 4 months	M1
Aziz, by 9 months cao (both the person and the 9 months)	A1

Answer: **Aziz, by 9 months**

Question 7

perimeter found: 4 x 35 = 140 m (or 35 x 6 = 210 then x 4)	M1
£840 cao	A1

Answer: **£840**

Question 8

(a) 7 cao	B1

(a) Answer: **7**

(b) 1 cao	B1

(b) Answer: **1**

Question 9

3 m 20 cm written as 320 cm (or 320 / 4 seen, or 3.2 / 4 = 0.8 m)	M1
80 cm cao (the answer is asked for in centimetres)	A1

Answer: **80 cm**

Question 10

a valid first step: 96 - 18 = 78 seen, or a trial pair of numbers that total 96 attempted	M1
a complete valid method: 78 / 2 = 39 seen for Ella, or a pair of numbers that total 96 and differ by 18 found	M1
57 cao	A1

Answer: **57**

Question 11

474 seen	M1
158 cao	A1

Answer: **158**

Question 12

1.64 seen	M1
total 9.24 seen	M1
£0.76 cao	A1

Answer: **£0.76**

Question 13

subtracts hours then minutes	M1
17:44 cao	A1

Answer: **17:44**

Question 14

64 cm cao	B1

Answer: **64 cm**

Question 15

finds the area of each rectangle	M1
48 square metres cao	A1

Answer: **48 square metres**

Question 16

subtracts hours then minutes	M1
08:28 cao	A1

Answer: **08:28**

Question 17

adds hours then minutes	M1
08:44 cao	A1

Answer: **08:44**

Question 18

4 cao	B1

Answer: **4**

Question 19

26 + 12 - 8 = 30 seen	M1
1 cao	A1

Answer: **1**

Question 20

addition method seen	M1
17,629 cao	A1

Answer: **17,629**

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Question 21

48 m cao	**B1**

Answer: **48 m**

Question 22

3 x 3,123 = 9,369 seen	**M1**
16,591 cao	**A1**

Answer: **16,591**

Question 23

Area of one rectangle found: 14 x 6 = 84	**M1**
252 cao	**B1**

Answer: **252**

Question 24

subtraction method seen	**M1**
6,942 cao	**A1**

Answer: **6,942**

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