KS2.M-Y6R1 Reasoning Practice Paper

Total Marks

Calculators not allowed · about 60 minutes

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 Calculate 7.5 + 3.25. Show your answer as a decimal.

(a) Add 7.5 and 3.25. **(2)**

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3 Sana reads 3 chapters in 25 minutes. At this rate, how many minutes will she take to read 9 chapters?

(a) Find the time for 9 chapters. **(3)**

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

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

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5 A shop sells pens at 35 p each. Kay buys 8 pens. How much does she pay in pounds and pence?

(a) Calculate the total cost. **(3)**

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6 Write 3/20 as a percentage.

(a) Convert 3/20 to a percentage. **(2)**

7 Ali has 4 bags. Each bag holds 125 grams of sugar. How many kilograms of sugar does he have altogether?

(a) Find the total mass in kilograms. **(2)**

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8 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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9 Write 0.875 as a fraction in its simplest form.

(a) Give 0.875 as a fraction in simplest form. **(2)**

10 A school has 240 pupils. Three quarters of the pupils go on a trip. How many pupils go on the trip?

(a) Find the number of pupils who go on the trip. **(2)**

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11 A triangular garden has base 8 m and height 5 m. What is its area in square metres? Show your working.

(a) Find the area of the triangle. **(3)**

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12 Teddy buys 3 identical notebooks and a pencil. The total cost is 5.40. The pencil costs 0.60. How much does one notebook cost?

(a) Find the cost of one notebook in pounds. **(2)**

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13 A bag contains red, blue and green counters. There are 5 red, 3 blue and 2 green counters. What fraction of the counters are blue? Give your answer in simplest form.

(a) Give the fraction of counters that are blue in simplest form. **(3)**

14 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)**

15 A baker had 48 cupcakes. He packs them equally into boxes. Each box holds 6 cupcakes. How many boxes does he fill?

(a) Find how many boxes are filled. **(2)**

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16 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)**

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17 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)**

18 A recipe for 6 pancakes uses 180 g of flour. Kamila wants to make 10 pancakes. How much flour does she need? Show your working.

(a) Find the mass of flour needed for 10 pancakes and explain your method. **(4)**

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Mark scheme · KS2.M-Y6R1 Reasoning Practice Paper

Question 1

- (a) **B1** 246,805 cao
- (a) Answer: **246,805**
- (b) **B1** digit 6 in the thousands place identified (value 6,000) cao
- (b) Answer: **6**

Question 2

- (a) **M1** Correct decimal addition method seen, aligning tenths and hundredths
- (a) **A1** 10.75 cao
- (a) Answer: **10.75**

Question 3

- (a) **M1** Correct proportional working, e.g. time per chapter 25/3 seen
- (a) **M1** Multiplies to find time for 9 chapters, e.g. (25/3) x 9
- (a) **A1** 75 cao
- (a) Answer: **75**

Question 4

- (a) **M1** Shows 2 x (12 + 7) or equivalent method
- (a) **A1** 38 cm cao
- (a) Answer: **38 cm**

Question 5

- (a) **M1** Shows 35 x 8 or correct grouping method
- (a) **M1** Works out intermediate total, e.g. 280 p
- (a) **A1** 2.80 cao
- (a) Answer: **2.80**

Question 6

- (a) **M1** Shows 3/20 = ?/100 or multiplies fraction to denominator 100
- (a) **A1** 15% cao
- (a) Answer: **15%**

Question 7

- (a) **M1** Shows 125 x 4 = 500 g
- (a) **A1** 0.5 kg cao
- (a) Answer: **0.5 kg**

Question 8

- (a) **M1** Adds values correctly, 6 + 9 + 3 + 12 = 30
- (a) **M1** Divides by 4 to find mean
- (a) **A1** 7.5 cao
- (a) Answer: **7.5**

Question 9

- (a) **M1** Shows 0.875 = 875/1000 and divides top and bottom by 125
- (a) **A1** 7/8 cao
- (a) Answer: **7/8**

Question 10

- (a) **M1** Shows 240 x 3/4 or finds 1/4 then multiplies
- (a) **A1** 180 cao
- (a) Answer: **180**

Question 11

- (a) **M1** Shows 1/2 x base x height or equivalent method
- (a) **M1** Computes 1/2 x 8 x 5 = 20 seen
- (a) **A1** 20 m2 cao
- (a) Answer: **20 m2**

Question 12

- (a) **M1** Subtracts pencil cost then divides by 3: shows (5.40 - 0.60) / 3
- (a) **A1** 1.60 cao
- (a) Answer: **1.60**

Question 13

- (a) **M1** Counts total counters 5 + 3 + 2 = 10
- (a) **M1** Forms fraction 3/10
- (a) **A1** 3/10 cao
- (a) Answer: **3/10**

Question 14

- (a) **M1** Reverses subtract then divide: shows 29 + 7 = 36
- (a) **M1** Divides by 4 to find input, 36 ÷ 4 = 9
- (a) **A1** 9 cao
- (a) Answer: **9**

Question 15

- (a) **M1** Shows 48 ÷ 6 or correct grouping
- (a) **A1** 8 cao
- (a) Answer: **8**

Question 16

- (a) **M1** Divides distance by litres: 150 ÷ 12 seen
- (a) **M1** Rounds result correctly to 1 dp
- (a) **A1** 12.5 cao
- (a) Answer: **12.5**

Question 17

- (a) **M1** Shows distance from 1 for A: 1 - 2/5 = 3/5 or 0.6
- (a) **M1** Shows distance from 1 for B: 1 - 3/4 = 1/4 or 0.25
- (a) **M1** Compares distances and states which is smaller
- (a) **A1** Point B is closer to 1, with correct reason cao
- (a) Answer: **Point B**

Question 18

- (a) **M1** Finds flour per pancake: 180 ÷ 6 = 30 g
- (a) **M1** Multiplies per pancake amount by 10: 30 x 10 seen
- (a) **M1** Computes 30 x 10 = 300
- (a) **A1** 300 g cao
- (a) Answer: **300 g**