10.3-8 Reasoning Practice Paper 8: Test 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 Write the number four hundred and seven thousand, two hundred and sixteen in figures.

(1)

2 Find the missing number: 8 x [ ] = 96

(1)

3 A water tank holds 18 litres when full. Water leaks out of a crack at a constant rate of 150ml per hour.

(a) Work out how many hours it will take for the tank to leak completely empty, starting from full. **(2)**

(b) The tank started leaking at 22:00 on 21/07/2026. Work out the date and time when the tank will be completely empty. **(2)**

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4 A bookshop reduces the price of a £24 boxed set of books by 25% in a sale. Priya has £20 to spend. Explain, showing your working, whether she has enough money to buy the boxed set.

(3)

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5 Write 4 2/6 as an improper fraction.

Answer: ___

(2)

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6 Dev has 30 bricks. Dev gives 1/3 of them to a friend.

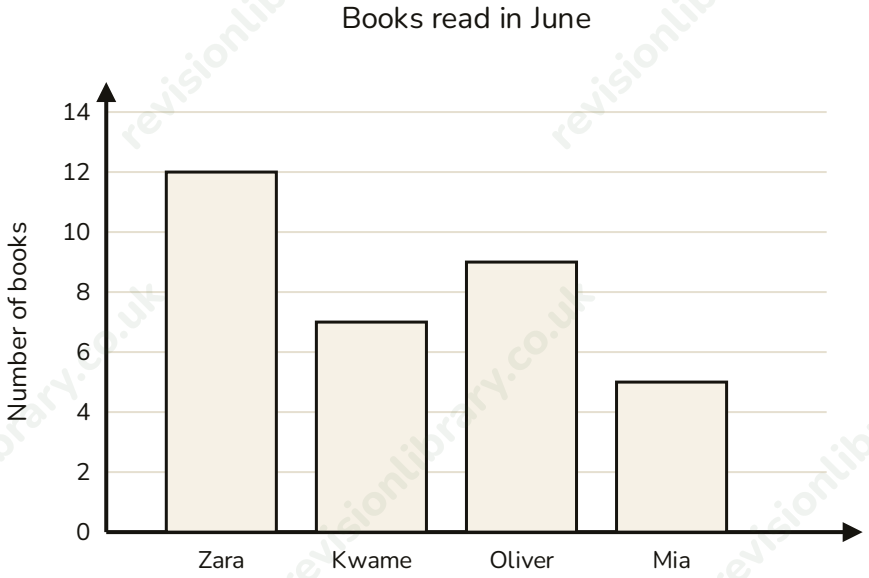
How many bricks does Dev give to the friend?

Answer: ___

(1)

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7 The bar chart shows the number of books read by four children in June.



(a) Work out how many more books Zara read than Kwame. **(1)**

.....

(b) Work out the total number of books read by all four children. **(1)**

.....

8 1/2 of the toy cars in a jar is 4. How many toy cars are in the jar?

Answer: ___

(2)

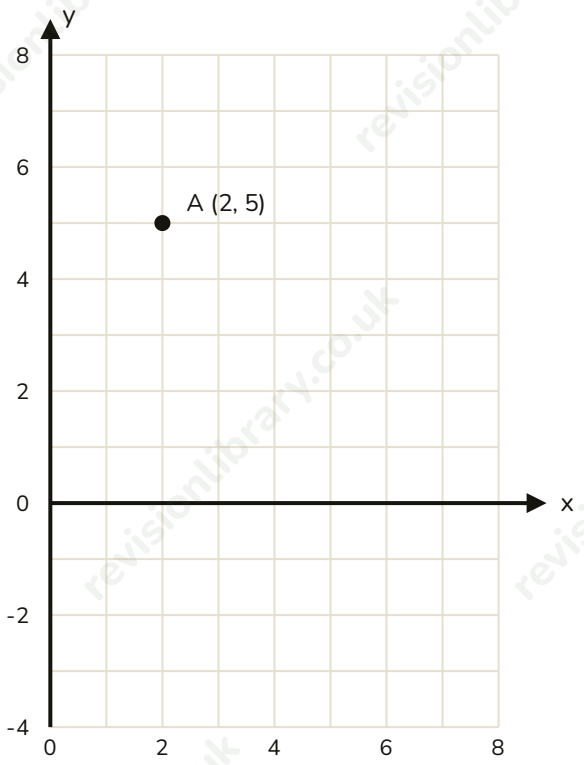
9 3/6 of the balloons in a jar is 24. How many balloons are in the jar?

Answer: ___

(2)

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10 Point A is at (2, 5) on a coordinate grid.



(a) Point A is translated 4 units right and 3 units down to point B. Write down the coordinates of point B. **(1)**

(b) Point B is then reflected in the x-axis to point C. Write down the coordinates of point C. **(2)**

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11 Work out 2 3/4 + 1 5/6. Give your answer as a mixed number in its simplest form.

(3)

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12 5/6 = ___/30

Answer: ___

(1)

---

13 Round 44.202 to 2 decimal places.

Answer: ___

(1)

---

14 A banana costs £7.99 and a biscuit costs £16.55.

How much more does the dearer item cost?

Answer: £___

(2)

---

15 Write these in order, smallest first.

65%, 0.6, 9/20

Answer: ___

(2)

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16 2 keyrings cost 108p.

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

Answer: £___

(2)

---

17 Ravi has 8 stars. Ravi gives 1/2 of them to a friend.

How many stars does Ravi give to the friend?

Answer: ___

(1)

---

18 Write the ratio 64:56 in its simplest form.

Answer: ___

(1)

---

19 Work out 2 1/3 - 1 2/3.

Give your answer in its simplest form.

Answer: ___

(2)

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20 A bag weighs 8.2 kg. How many kg are there in 7 bags?

Answer: ___ kg

(2)

---

21 Ravi has 90 stamps. Ravi gives 9/10 of them to a friend.

How many stamps does Ravi give to the friend?

Answer: ___

(2)

---

22 Write <, > or = in the box.

2/3 [ ] 7/8

Answer: ___

(2)

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23 Which fraction is equivalent to 3/5?

A: 15/25 B: 8/10 C: 15/26 D: 16/25

Write the letter.

Answer: ___

(1)

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24 4/5 of the stickers in a jar is 8. How many stickers are in the jar?

Answer: ___

(2)

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Mark scheme · 10.3-8 Reasoning Practice Paper 8: Test Pack

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

Question 1

407216 cao — **B1**

Answer: **407216**

Question 2

12 cao — **B1**

Answer: **12**

Question 3

(a) converts 18 litres to 18000ml oe — **M1**

(a) 18000 / 150 = 120 (hours) cao — **A1**

(a) Answer: **120 hours**

(b) 120 hours / 24 = 5 days exactly, ft their answer to part (a) — **M1 ft**

(b) 22:00 on 26/07/2026 cao — **A1**

(b) Answer: **22:00 on 26/07/2026**

Question 4

10% of 24 = 2.40, so 25% = 2.40 x 2.5 = 6 (or equivalent method) oe — **M1**

sale price = 24 - 6 = 18, dependent on correct 25% found — **dM1**

cso; correct conclusion that she has enough money, since 18 is less than 20 (with £2 left over) — **A1**

Answer: **Yes, the boxed set costs £18 in the sale, which is less than her £20, so she has enough money (with £2 left over)**

Question 5

method seen — **M1**

26/6 cao — **A1**

Answer: **26/6**

Question 6

10 cao — **B1**

Answer: **10**

Question 7

(a) 5 cao — **B1**

(a) Answer: **5 books**

(b) 33 cao — **B1**

(b) Answer: **33 books**

Question 8

4 x 2 seen — **M1**

8 cao — **A1**

Answer: **8**

Question 9

24 / 3 = 8 seen — **M1**

48 cao — **A1**

Answer: **48**

Question 10

(a) (6, 2) cao — **B1**

(a) Answer: **(6, 2)**

(b) shows understanding that reflecting in the x-axis keeps the x-coordinate and reverses the sign of the y-coordinate oe — **M1**

(b) (6, -2), ft their point B — **A1 ft**

(b) Answer: **(6, -2)**

Question 11

converts both fractions to a common denominator of 12: 2 9/12 + 1 10/12 oe — **M1**

adds to give 3 19/12, dependent on correct common denominator — **M1**

4 7/12 cao (simplified mixed number) — **A1**

Answer: **4 7/12**

Question 12

25 cao — **B1**

Answer: **25**

Question 13

44.20 cao — **B1**

Answer: **44.20**

Question 14

subtraction method — **M1**

£8.56 cao — **A1**

Answer: **£8.56**

Question 15

converts to a common form — **M1**

9/20, 0.6, 65% cao — **A1**

Answer: **9/20, 0.6, 65%**

Question 16

108 divided by 2 = 54 seen — **M1**

£2.16 cao — **A1**

Answer: **£2.16**

Question 17

4 cao — **B1**

Answer: **4**

Question 18

8:7 cao — **B1**

Answer: **8:7**

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Question 19

converts to a common denominator **M1**

2/3 cao **A1**

Answer: **2/3**

Question 20

multiplication seen **M1**

57.4 kg cao **A1**

Answer: **57.4 kg**

Question 21

90 divided by 10 = 9 seen **M1**

81 cao **A1**

Answer: **81**

Question 22

common denominator seen **M1**

< cao **A1**

Answer: **<**

Question 23

A cao **B1**

Answer: **A**

Question 24

8 / 4 = 2 seen **M1**

10 cao **A1**

Answer: **10**

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