

KS2 SATs Paper

Reasoning Practice Paper 2

Pack 3

1

Circle the **largest** number.

7,560 7,600 7,056 7,555 7,060

1 mark

2a

16 $\xrightarrow{\times 1000}$

1 mark

2b

$\xrightarrow{\times 1000}$ 800

1 mark

3

Circle the **two** numbers that round to 10, when rounded to the nearest **whole number**.


10.8 9.4 10.2 9.5 10.5

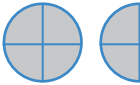

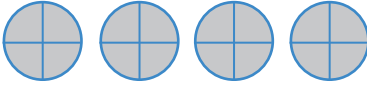
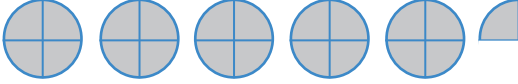
1 mark

4

St. Peter's Primary School are holding events to raise money for a new library bus.

The pictogram shows how much money was raised by each event.

 = £100

Event	Amount Raised
Cake sale	
Sponsored walk	
Family Fun Day	
Non-uniform day	

a

Altogether, how much money has been raised?

£

1 mark

b

The school are aiming to raise **£3,000** for the library bus. How much **more** money do they need to reach their target?

£

1 mark

5

Write in the **five** missing numbers in this multiplication grid.

x	6		
	48	24	56
7	42		49
	24	12	28

2 marks

6

Jacob is 9 years and 10 months old.

How old is he, in months?

1 mark

7a

Write the missing number in digits.

$$\text{CCLIX} + \boxed{} = \text{D}$$

1 mark

7b

Circle the Roman numerals that show the year 1919.

MIXXIX

IIXIIX

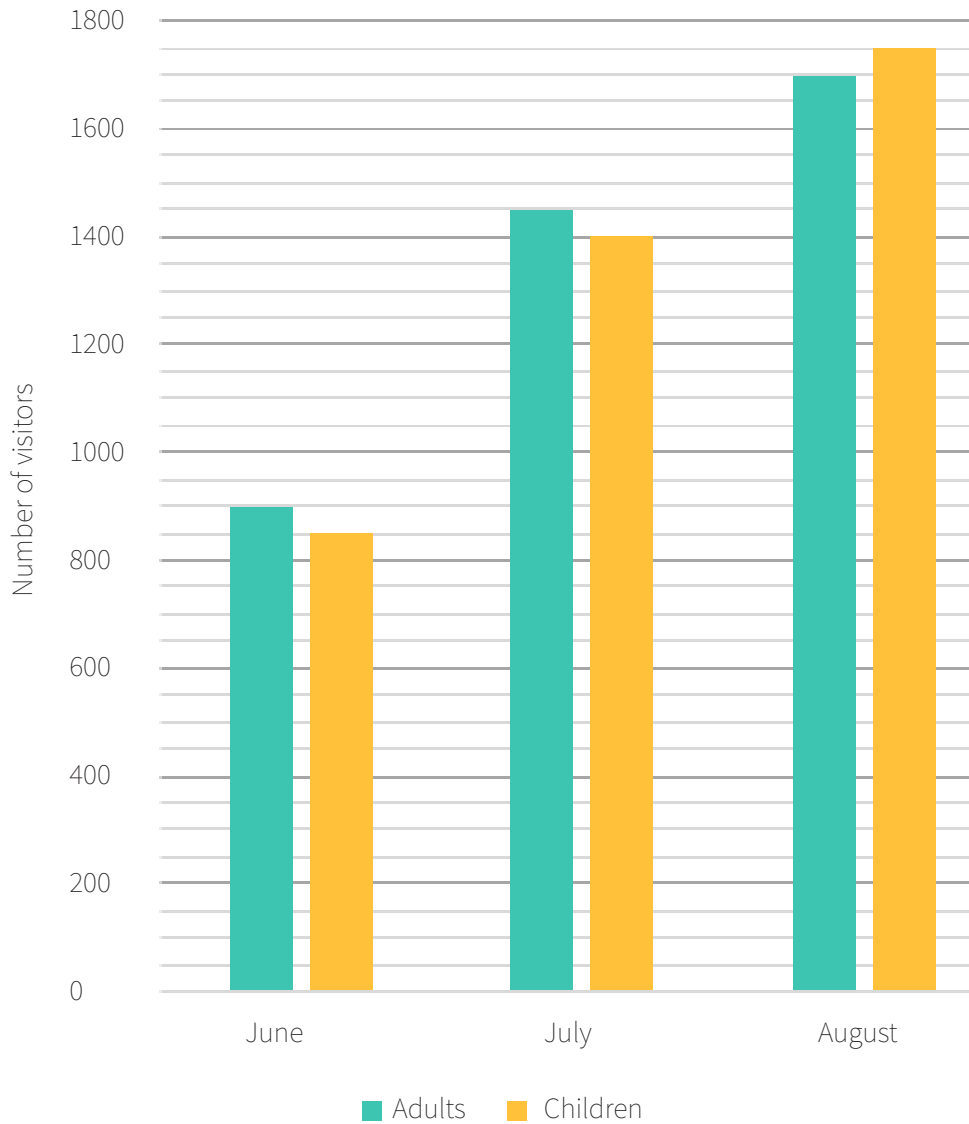
MCMXIX

MCMXVIII

1 mark

8

A museum had the following visitors in the summer of 2017:



a

How many **more** adults than children went to the museum in June?

1 mark

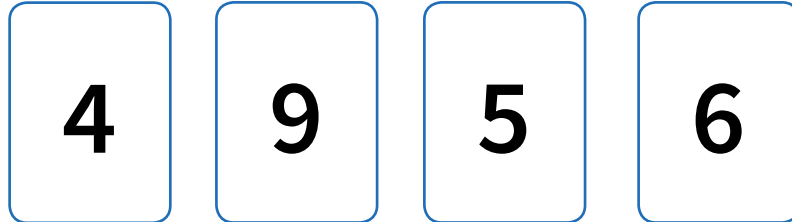
b

In total, how many adults and children visited the museum in August?

1 mark

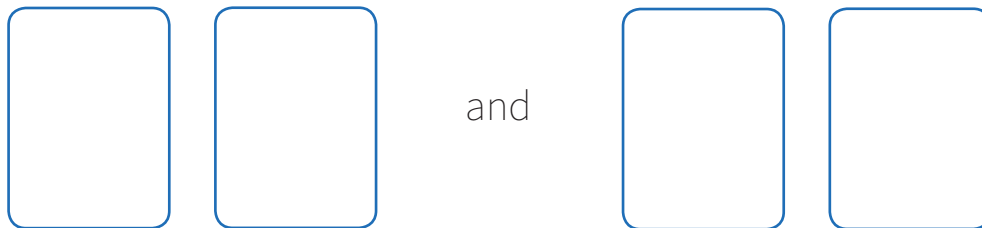
9

Eva picks these digit cards:



a

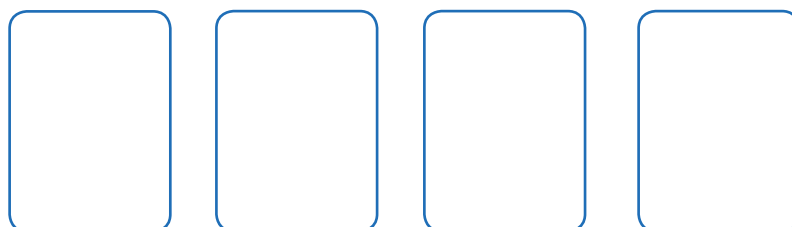
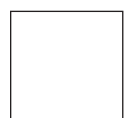
Use **all four** digit cards to make **two** 2-digit numbers that are multiples of 6. Each digit card may only be used once.

Two pairs of empty rounded rectangular boxes are shown. The first pair is on the left, followed by the word 'and' in the center, and the second pair is on the right.

1 mark

b

Use all **four digit** cards to make the **largest** number possible. Each digit card may only be used once

Four empty rounded rectangular boxes are arranged horizontally.

1 mark

10

Circle the shape that has only one acute angle.



1 mark

11

Write the number **seven hundred and two thousand, four hundred and eight** in digits .

1 mark

12

Write in the missing number to make the calculation correct.

$$2400 \div 60 = 5 \times \boxed{} \times 2$$

1 mark

15

Two of the numbers below are **prime** and common factors of 46 and 92. Circle the **two** numbers.

46 23 4 184 2 3

1 mark

16

Calculate angle a.

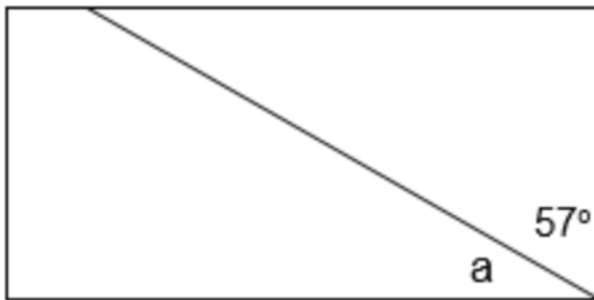


Diagram not to scale

1 mark

17

$$x + y = 10$$

$$y - x = 4$$

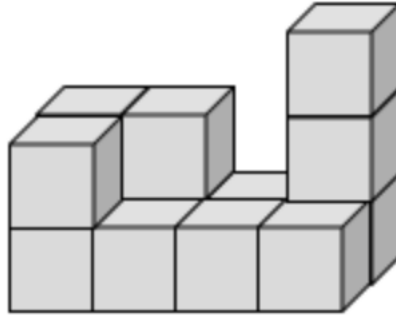
x and y are whole numbers.

Calculate the value of **y** .

1 mark

21

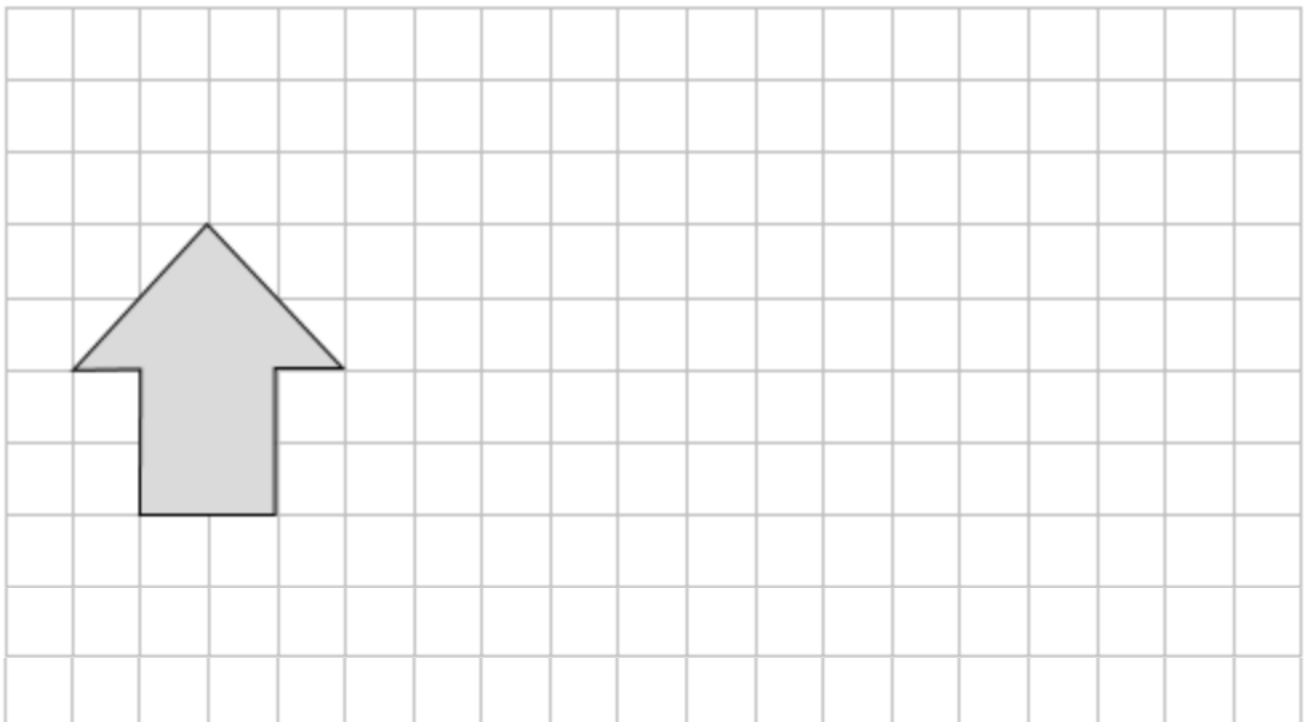
How many cubes have been used to make this 3-D shape?



1 mark

22

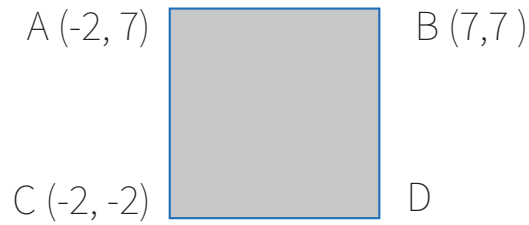
Enlarge the shape by a **scale factor** of 2.



2 marks

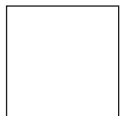
23

Here are the co-ordinates for three corners of a square:



Baldeep says that the co-ordinates of corner D are (-7, -7).

Explain why he is **incorrect**.



1 mark

Key Stage 2 SATs
Mathematics Test Mark Scheme
Paper 2: Reasoning

The instructions and principles of this mark scheme closely follow the guidance in the 2016 national curriculum tests. We have deliberately not set a limited time for the test paper as a teacher may want to vary it according to the standard individual children are working at.

The national curriculum test allows 40 minutes to complete this test.

Demand Descriptors

T = Working towards expected standard

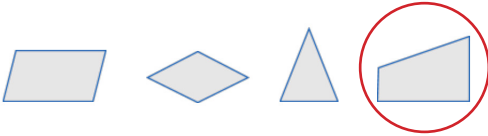
E = Working at expected standard

G = Working at greater depth within expected standard

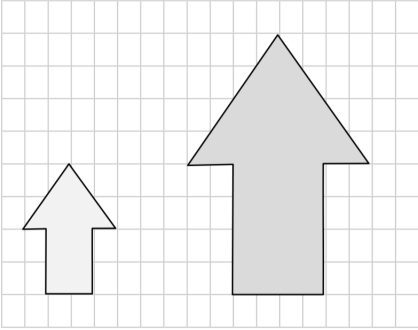
Key Stage 2 SATs
 Mathematics Test Mark Scheme
 Paper 2: Reasoning

Q	Required answer	Mark	Acceptable answer or additional guidance	Content Domain Ref	NC Strand	Level of demand																
1	7,560 7,600 7,056 7,555 7,060	1m	Accept any unambiguous indication of the correct answer e.g. a tick	1 4N2a	Number	T																
2	a. 16,000	1m		5C6b	Calculation	E																
	b. 0.8	1m			Calculation	E																
3	10.8 9.4 10.2 9.5 10.5	1m	Both answers required for the award of ONE mark. Accept any unambiguous indication of the correct answers e.g. ticks	4F7	Fractions	T																
4	a. £1,350	1m	If part a is incorrect, for part b accept £3,000 – part the incorrect answer	4S2	Statistics	T																
	b. £1,650	1m		5C1	Calculation	E																
5	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>X</td> <td>6</td> <td>3</td> <td>7</td> </tr> <tr> <td>8</td> <td>48</td> <td>24</td> <td>56</td> </tr> <tr> <td>7</td> <td>42</td> <td>21</td> <td>49</td> </tr> <tr> <td>4</td> <td>24</td> <td>12</td> <td>28</td> </tr> </table>	X	6	3	7	8	48	24	56	7	42	21	49	4	24	12	28	Up to 2m	Award TWO marks for five boxes completed correctly. Award ONE mark for three or four boxes completed correctly.	4C6a	Calculation	T
X	6	3	7																			
8	48	24	56																			
7	42	21	49																			
4	24	12	28																			
6	118 months	1m		4M4c	Measures	E																
7	a. 241	1m	Also accept CCXLI	5N3b	Number	G																
	b. MIXXIX IIXIX MCMXIX MCMXVIII	1m	Accept any unambiguous indication of the correct answer e.g. a tick		Number	E																
8	a. 50	1m		4S1	Statistics	E																
	b. 3,450	1m																				
9	a. 54 and 96	1m		4N1	Number	E																
	b. 9,654	1m		4N2a	Number	E																

Key Stage 2 SATs
 Mathematics Test Mark Scheme
 Paper 2: Reasoning

Q	Required answer	Mark	Acceptable answer or additional guidance	Content Domain Ref	NC Strand	Level of demand
10		1m	Accept any unambiguous indication of the correct answer e.g. a tick	4G4	Geometry	E
11	702,408	1m		5N2	Number	E
12	4	1m		4C6b	Calculation	E
13	Award TWO marks for the correct answer of £5,525 If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. $3,427 + 8,065 = 11,492$ $11,492 - 5,967$	Up to 2m	Accept £5,525.00 £5,525.00p £5525	4M9	Measures	E
14	1,416m ²	1m		5M7b	Measures	E
15	46 23 4 184 2 3	1m	Both answers required for the award of ONE mark	6C5	Calculation	E
16	33°	1m		5G2a	Geometry	E
17	y=7	1m		6A1	Algebra	E
18	£4.80	1m	Accept £4.80p £4 80 pence £4-80 £4:80 £4;80	6R1	Ratio	G
19	Award TWO marks for the correct answer of 0.35 If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. Jack: $\frac{2}{5} = 40\%$ Amir: 25% Chloe: $100\% - (25\% + 40\%) 35\% = 0.35$	Up to 2m	Award ONE mark for Chloe = 35% as evidence of correct conversion of $\frac{2}{5}$ to 40%	5F12	Fractions Fractions	E G
20	Award TWO marks for the correct answer of 1,800g If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. 3 planks of wood weigh $4.2 \times 3 = 12.6\text{kg}$ 7 bricks weigh 12.6kg, so 1 brick weighs $12.6 \div 7 = 1.8\text{kg} = 1,800\text{g}$	Up to 2m	Award ONE mark for 1.8, as evidence of an appropriate method	5M9c 5M5	Measures Measures	E G

Key Stage 2 SATs
Mathematics Test Mark Scheme
Paper 2: Reasoning

Q	Required answer	Mark	Acceptable answer or additional guidance	Content Domain Ref	NC Strand	Level of demand
21	13	1m		6G3b	Geometry	E
22	<p>Award TWO marks for shape drawn correctly, as shown:</p>  <p>If incorrect, award ONE mark for correct height and width of base.</p>	Up to 2m	Accept slight inaccuracies in drawing. The larger shape can be positioned anywhere on the grid.	6R3	Ratio	E
23	<p>Award ONE mark for an explanation that states that the correct co-ordinate for corner D is (7, -2). Award ONE mark for an explanation that explains what is wrong with Baldeep's co-ordinate, e.g. Corner C is at -2 on the y-axis. -7 would be below that</p>	1m	Do not accept vague, incomplete or incorrect explanations i.e. some reference to co-ordinates must be given	6P3	Position	G
24	<p>Award TWO marks for the correct answer of £794.15 If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. $7 = £226.90 \div 2 = £113.45$ $7 = £113.45 \times 7$</p>	Up to 2m	Accept £794.15p £794 15 pence £794-15 £794:15 £794;15	5F4 6F9c	Measures	E G

Balance of difficulty of questions in the paper

5 marks at working towards

24 marks at the expected standard

6 marks at working at greater depth

Thresholds

Working towards the expected standard: Criteria for 'working at the expected standard' have not been met.

Working at the expected standard: at least 10 of the 24 'expected' marks are obtained, together with all 5 of the working towards marks, but none of the 6 marks graded 'greater depth'. This mark is 15 out of 35.

Working at greater depth: all of the 5 working towards marks are obtained, plus at least 90% of the 'expected' marks and at least 50% of the 'greater depth' marks. This mark is 30 out of 35.