## Key Stage 2

## Mathematics

Reasoning: Pack 2 Test 2b

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## Key Stage 2 Maths Reasoning: Pack 2 Test 2b

1. Here is a quadrilateral.


Measure accurately the length of the longest and shortest sides.

2. $1 \mathrm{~kg}=2.2 \mathrm{lb}$

Convert 3.5 kg into pounds (lb)

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3. 7 children buy a 330 ml can of lemonade and a 1 litre bottle of cola.

2 children share the can equally, and 5 children share the bottle equally.
How much more drink do the children sharing the bottle have than those sharing the can?

4. Order the following quantities from smallest to largest.

$$
\frac{1}{5} \text { of } 70 \quad \frac{3}{4} \text { of } 20 \quad 60 \% \text { of } 24
$$



Smallest
5. Write down a number with 3 tenths, 9 hundredths and 7 thousandths.

6. Write acute, reflex and obtuse below the correct angle.

7. A shopkeeper has 14 boxes of 24 cans and 14 packs of 6 cans. How many cans does the shopkeeper have altogether?

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8. Here is a graph showing the average maximum temperatures in London.

a) How many months have an average temperature above $10^{\circ} \mathrm{C}$ ?

b) What is the difference between the highest and lowest average temperature?

9. Each week a group of 8 children in a class take a special maths test. The teacher keeps a record of the average score each week.
One week the average is 7.25 out of 10 . Only 2 children get full marks. Write down possible scores for the other 6 children.

10.In one month 110346 fans attend the four football matches at a football team's home ground.

The attendances at the first three games were 28 963, 29 672, 24082.
a) How many attended the fourth game?

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b) Rounding each attendance to the nearest 500, what is the new total attendance?

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11.A father cooks some pasta for himself and his daughter for a packed lunch. He cooks 75 g for himself and 50 g for his daughter.
When serving the pasta, he uses 10 equal spoonfuls.
How many spoonfuls will he serve his daughter?

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12. Complete the following addition calculation.

$$
\begin{array}{r}
\square 46 \square \\
+3 \square 79 \\
\hline 73 \square 1
\end{array}
$$

13. Shade some more squares in this rectangle so that $\frac{7}{10}$ is shaded.

14. Use 8 different digits to write an addition calculation with 2 numbers, so the total is 10 .

0 may be used

15.A school fruit shop records its profit and loss over a five week period.

This graph shows the profit and loss each week.


Calculate the total profit or loss over the five weeks.

16. Write the decimal numbers in the marked boxes to continue the sequence.

| 17.56 | 17.59 | 17.62 | 17.65 |
| :--- | :--- | :--- | :--- |
| 17.68 | 17.71 | 17.74 | 17.77 |
|  |  |  |  |
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17. These 3 lines all intersect at the same point.


Calculate the angle marked $A$.

18. A singer sells a single as a music download and CD, making a total profit of $£ 8399.82$.

She sells 12354 CD singles, earning 35p for every single sold.
She earns 17p for each music download of the single.

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19. A class of children record the choice of school dinners over one week.

| Meal | Number of children |
| :--- | :--- |
| Hot meal | 75 |
| Jacket potato with filling | 45 |
| Sandwiches | 60 |

Use the information in the table to construct a pie chart.

20.A supermarket sells different bags of potatoes.

$£ 2.60$

$£ 1.25$

85p

A shopper wants to buy at least 4.5 kg of potatoes.
What is the cheapest way to buy at least 4.5 kg of potatoes?

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Answer Sheet: Key Stage 2 Maths Reasoning: Pack 2 Test 2b

| question | answer | marks | notes |
| :---: | :---: | :---: | :---: |
| 1. |  |  |  |
|  | Longest $\mathbf{8 . 6} \mathrm{cm}$ Shortest $\mathbf{3 . 2} \mathbf{c m}$ | 1 | Allow 0.1 cm error for each. Both correct for 1 mark. |
| 2. |  |  |  |
|  | 7.71b | 1 |  |
| 3. |  |  |  |
|  | 35 ml or 0.0351 | 2 | 1 mark for an incorrect answer but only one mistake in calculating. |
| 4. |  |  |  |
|  | $\begin{aligned} & \frac{1}{4} \text { of } 70=14 \\ & 60 \% \text { of } 24=14.4 \\ & \frac{3}{4} \text { of } 20=15 \end{aligned}$ | 1 |  |
| 5. |  |  |  |
|  | 0.397 | 1 | Accept any digits in the whole number places. |
| 6. |  |  |  |
|  | reflex <br> obtuse <br> acute | 1 |  |
| 7. |  |  |  |
|  | 420 cans | 2 | 1 mark for an incorrect answer but only one mistake in calculating. $(14 \times 24)+(14 \times 6)=14 \times 30=420$ |
| 8. |  |  |  |
| a | 8 months (April - Nov) | 1 |  |
| b | $15^{\circ} \mathrm{C}$ | 1 | Allow 14-16 ${ }^{\circ}$. Unit must be written for the mark. |
| 9. |  |  |  |
|  | 6 scores totalling 38 e.g. $6,6,6,6,7,7$ | 2 | 1 mark for correctly identifying the total of the 8 scores is 58 . |


| question | answer | marks | notes |
| :---: | :---: | :---: | :---: |
| 10. |  |  |  |
| a | 27629 | 2 | 1 mark for an incorrect answer but only one mistake in calculating. Total of three games given is 82717 . |
| b | $\begin{aligned} & 110000 \\ & 29000+29500+24000+27500 \end{aligned}$ | 2 | 2 marks for correct answer, including an answer that correctly uses an incorrect answer from 10a. <br> 1 mark for an incorrect answer but only one mistake in rounding. |
| 11. |  |  |  |
|  | 4 spoonfuls ratio is 3:2 father: daughter | 2 | 1 mark for an incorrect answer but only one mistake in calculating. |
| 12. |  |  |  |
|  | $\begin{aligned} & \hline 3462 \\ & \frac{3879}{7341}+ \end{aligned}$ | 2 | 1 mark for 3 correct digits. |
| 13. |  |  |  |
|  | 10 more shaded so 14 are shaded altogether. | 1 | Allow partial shading of squares as long as the total is 14 squares e.g. 10 whole squares and 8 half squares. |
| 14. |  |  |  |
|  | Any correct answer: e.g. $5.017+4.983$ | 1 |  |
| 15. |  |  |  |
|  | £10.50 profit Allow £10-£11 | 2 | 2 marks for an answer between (and including) $£ 10$ and $£ 11$. <br> 1 mark for an answer between (and including) $£ 9$ and $£ 10$ or $£ 11$ and $£ 12$. |
| 16. |  |  |  |
|  | 17.95 and 18.25 | 2 | 1 mark for each correct answer. |
| 17. |  |  |  |
| a | $21^{\circ}$ | 1 | ${ }^{\circ}$ must be written for mark to be awarded. |


| question | answer | marks | notes |
| :---: | :---: | :---: | :---: |
| 18. |  |  |  |
|  | 23976 downloads | 3 | 2 marks for a correct method with no more than 1 mistake in calculation. <br> 1 mark for a correct method but an incorrect answer. <br> A correct method: <br> 12354 CD singles @ 35p $=£ 0.35 \times 12354$ $=£ 4323.90$ <br> Music download earning $=£ 8399.82$ - <br> $£ 4323.90=£ 4075.92$ <br> Number of downloads $=£ 4075.92 \div £ 0.17$ <br> or $407592 \div 17=23976$ |
| 19. |  |  |  |
|  | Hot meals $150^{\circ}$ Jacket potato $90^{\circ}$ Sandwiches $120^{\circ}$ | 2 | 2 marks for correct answer within an error of $1^{\circ}$ <br> 1 mark for correct answer within an error of $3^{\circ}$ |
| 20. |  |  |  |
|  | Two 2.5kg bags ( $£ 2.50$ ) <br> Note Three 1.5 kg bags would be $£ 2.55$ and one 5 kg bag $£ 2.60$. | 2 | 1 mark for correctly calculating the cost of buying at least 4.5 kg with each bag, but giving an incorrect answer. |
|  |  | Total 35 |  |

