

Letter tiles maths challenge 1

Here are some letter tiles and their values from a word game. The tiles are used to create two boys and one girl's name. If you add up the total scores of the letters in the names the answer is 39. All the names are different, but what are they?

Clues:

- The name of the girl has the same number of letters in it as one of the boys' names.
- If you add together the first letters of the boys' names, the answer is 16.
- The girl's name scores 5 in total.
- Both boys' names have the same scores.
- In all of the names, there are seven letters that score 1.

A ₁	B ₃	C ₃	D ₂	E ₁	F ₄
G ₂	H ₄	I ₁	J ₈	K ₅	L ₁
M ₃	N ₁	O ₁	P ₃	Q ₁₀	R ₁
S ₁	T ₁	U ₁	V ₄	W ₄	X ₈
Y ₄	Z ₁₀				

Use the information provided by the clues above and work out which of the following names fit the criteria:

Aisha	Walt	Zak	Xavier	Xabi	Jeana
Sam	Jacques	Jay	Tina	Joe	Dot
Yvonne	Zachary	Queenie	Jayden	Joachim	Xabier
James	Gabi	Quentin	Gina	Zebedee	Jack
Yanis	Zephaniah	Finn	May	Yeng	Xerxes

Letter tiles maths challenge 2

Here are some letter tiles and their values from a word game. The tiles are used to create two boys and one girl's name. If you add up the total scores of the letters in the names the answer is 39. All the names are different, but what are they?

Clues:

- The name of the girl has the same number of letters as one of the boys' names.
- If you add together the first letters of the boys' names, the answer is 16.
- The girl's name scores 5 in total.
- Both boys' names have the same scores.
- In all of the names, there are seven letters that score 1.
- The girl's name is four letters.
- The girl's name begins with a G.

A ₁	B ₃	C ₃	D ₂	E ₁	F ₄
G ₂	H ₄	I ₁	J ₈	K ₅	L ₁
M ₃	N ₁	O ₁	P ₃	Q ₁₀	R ₁
S ₁	T ₁	U ₁	V ₄	W ₄	X ₈
Y ₄	Z ₁₀				

Use the information provided by the clues above and work out which of the following names fit the criteria:

Aisha	Walt	Zak	Xavier	Xabi	Jeana
Sam	Jacques	Jay	Tina	Joe	Dot
Yvonne	Zachary	Queenie	Jayden	Joachim	Xabier
James	Gabi	Quentin	Gina	Zebedee	Jack
Yanis	Zephaniah	Finn	May	Yeng	Xerxes

Letter tiles maths challenge – solution

1. Let's call the score for the girl's name A and the scores for the two boys names B and C respectively.
2. We know that $A + B + C = 39$. We also know that $A = 5$ and that $B = C$. Therefore we know that $B + C = 39 - 5 = 34$. In turn that means both B and C equal 17 as $34 \div 2 = 17$.
3. Let's say that the number of letters in the girl's name is a and the number of letters in each of the boys' names is b and c respectively.
4. We know that a is also equal to the number of letters in one boy's name, so let's say $a = b$
5. The first letters of the boys names added together equal 16. The only way we can do this, using the tiles given, is $8 + 8$. That means the letters could be X and J, X and X or J and J.
6. Once these facts are established provide the list of names given for children to test out using the criteria.
7. As a recap, ensure children know they need to find tiles for; girl-A that score 5; boy-B that score 17 and is the same number of tiles as girl-A; another boy's name that scores 17; all three names where there are seven letters that score 1.
8. For example, you might try; girl-A is SAM, boy-B is JOE and boy-C is JAMES. In this example, girl-A and boy-B are of the same length, boy-B and boy-C both start with J (the scores for two J tiles equals 16), girl-A's name scores 5 and in all of the names, there are seven letters that score 1. However, you may have already realised that the scores don't work i.e. 5, 10 and 14 respectively. Both boys don't have the same score and the total is not 39.
9. The easy version includes two extra clues: the girl's name is four letters and the girl's name also begins with G.
10. Solution: Gina, Jack and Jayden.
11. This challenge could easily be adapted for the names of the children in your class. Choose 3 names and make up your own set of clues in the style of the example above.