

20 Questions for Christmas



Name _____ Date _____

1. How many letters are there in the word Christmas?
2. What do the fifth and the ninth letter have in common?
3. Which letter appears the most times in the word Christmas?
4. How many vowels are there in the word Christmas?
5. How many consonants are there in the word Christmas?
6. Write down the ratio of consonants to vowels.
7. Which number, when multiplied by itself, gives the answer to Q1?
8. Write down the ratio of vowels to consonants.
9. If you assign numerical values to each letter of the alphabet in the sequence $a=1, b=2, c=3, \dots, z=26$, what is the total numerical value of the word Christmas?
10. Re-arrange the letters of Christmas into alphabetical order.
11. How many letters belong to the first half of the alphabet and which ones are they?
12. How many letters belong to the second half of the alphabet and which ones are they?

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13. By using the numerical values from Q9, calculate the sum of the letters in your answers to Q11 and Q12 by replacing the letters with their equivalent numbers and adding them up. Write your answers in the boxes below:

First half:	Second half:
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14. Again using the numerical value of the letters, work out the total for the vowels and the total for the consonants and write them in the boxes below:

Vowels:	Consonants:
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15. What is the numerical ratio of vowels to consonants? Simplify if possible.

16. By using the numerical values of the letters, calculate the mean (numerical) value for Christmas. (*Hint: use your answers to Q1 and Q9*)

17. What is the range of “Christmas” – use the numerical values for the letters to calculate this.

18. Which letter represents the “modal value” of the word Christmas?

19. Which letter and what value represents the median of the word Christmas?

20. What is the numerical ratio of the total for the first half of the alphabet letters in the word Christmas to the total of the second half? Simplify your answer if possible.

Hope you enjoyed this little activity. Feel free to try it out over the dinner table at Christmas – it might just be an amusing diversion.

You could, of course, replace “Christmas” with “New Year’s Eve”, “Ramadan” or “Diwali” and start all over again. Like recycling, the possibilities are endless...

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Answers

1. How many letters are there in the word Christmas? **9**
2. What do the fifth and the ninth letter have in common? **The same letter "s"**
3. Which letter appears the most times in the word Christmas? **"s"**
4. How many vowels are there in the word Christmas? **2**
5. How many consonants are there in the word Christmas? **7**
6. Write down the ratio of consonants to vowels. **7:2**
7. Which number, when multiplied by itself, gives the answer to Q1? **3**
8. Write down the ratio of vowels to consonants. **2:7**
9. If you assign numerical values to each letter of the alphabet in the sequence a=1, b=2, c=3.....z=26, what is the total numerical value of the word Christmas?

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

$$3+8+18+9+19+20+13+1+19 = 110$$

10. Re-arrange the letters of Christmas into alphabetical order. **A C H I M R S S T**
11. How many letters belong to the first half of the alphabet and which ones are they?
5; A C H I M
12. How many letters belong to the second half of the alphabet and which ones are they?
4; R S S T
13. By using the numerical values from Q9, calculate the sum of the letters in your answers to Q11 and Q12: First half: **34** Second half: **76**
14. Work out the total for the vowels and the total for the consonants:
Vowels: **10** Consonants: **100**
15. What is the numerical ratio of vowels to consonants? **10: 100 leading to 1:10**
16. Calculate the mean (numerical) value for Christmas. **$110 \div 9 = 12.22$**
17. What is the range of "Christmas? **$20 (T) - 1 (A) = 19 (or S)$**
18. Which letter represents the "modal value" of the word Christmas? **S, it appears twice.**
19. Which letter and what value represents the median of the word Christmas? **M, 13**
20. What is the numerical ratio of the total for the first half of the alphabet letters in the word Christmas to the total of the second half? Simplify your answer if at all possible.

$$34:76 \text{ which becomes } 17:38$$

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THANK YOU