

Composite numbers and prime factors

- 1 Which set is not made up only of prime numbers? Circle the correct answer.
- a {1, 2, 3, 5, 7, 11, 13, 17.}
 - b {13, 17, 19, 23, 29, 31, 37, 41.}
 - c {17, 19, 23, 29, 31, 37, 41, 43.}
 - d {31, 37, 41, 43, 47, 53, 59, 61, 67.}

Write or circle the correct answers.

- 2 Which is the nearest prime number to 84? _____
- 3 Which two prime numbers are adjacent to 43? _____, _____
- 4 What composite number is made up by the multiplication of 2, 3 and 2? _____
- 5 What composite number is made up by the multiplication of 3, 3 and 11? _____
- 6 What are the prime factors of 6?
a 6 b 1, 6 c 2, 3 d 23
- 7 What are the prime factors of 8?
b 2 b 2, 2, 2 c 2, 4 d 2, 3, 3
- 8 What are the prime factors of 24?
(Hint: first think of $2 \times 12 = 24$.) _____
- 9 What are the prime factors of 30?
(Hint: first think of $3 \times 10 = 30$.) _____
- 10 What are the prime factors of 28?
(Hint: first think of $4 \times 7 = 28$.) _____
- 11 What are the prime factors of 40?
(Hint: first think of $4 \times 10 = 40$.) _____
- 12 What are the prime factors of 81?
(Hint: first think of $9 \times 9 = 81$.) _____
- 13 What are the prime factors of 180?
(Hint: first think of $18 \times 10 = 180$ and then $2 \times 9 \times 10 = 180$) _____

Write yes or no.

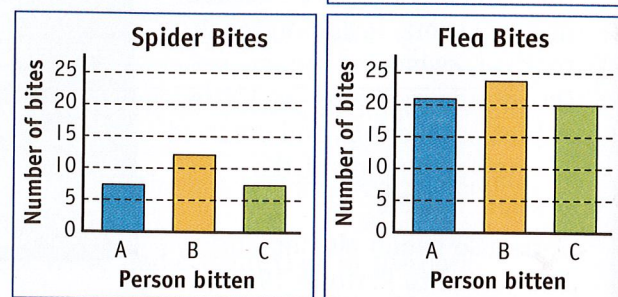
- 14 Can two prime numbers multiplied together equal an even number? _____
- 15 Can two prime numbers multiplied together equal an odd number? _____
- 16 Can two prime numbers multiplied together equal a prime number? _____

Score 2 points for each correct answer!

SCORE /32 0-14 16-26 28-32

Interpreting data displays

These graphs show the number of times that the same three people were bitten by different creatures. Use the graphs to answer the following questions.



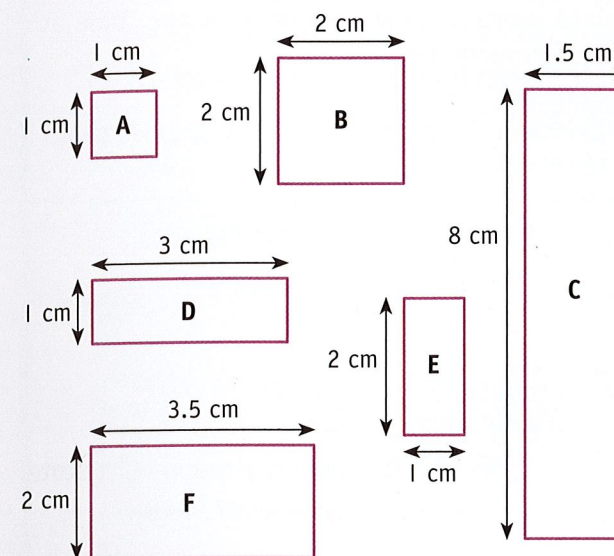
- 1 Who was bitten the least by mosquitoes - A, B or C? _____
- 2 Who was bitten the most by spiders? _____
- 3 Who was bitten the most by fleas? _____
- 4 Which creature inflicted most bites in total? _____
- 5 Which two people were bitten the same number of times by the same creature? _____
- 6 Which two people were bitten the same number of times by different creatures? _____
- 7 Who was bitten the same number of times by two different creatures? _____
- 8 How many times was A bitten by fleas? _____
- 9 How many times was A bitten by spiders? _____
- 10 Who was bitten the least by mosquitoes? _____
- 11 How many times in total was B bitten? _____
- 12 How many times in total was B bitten by mosquitoes, A bitten by fleas and C bitten by spiders? _____
- 13 By which creature were the people bitten most nearly the same number of times? _____
- 14 For which creature is the number of bites the three people experienced most spread out? _____

Score 2 points for each correct answer!

SCORE /28 0-12 14-22 24-28

Comparing lengths and areas

Use these plan drawings to answer the following questions.



- 1 Which shape has the smallest area? _____
- 2 Which shape has the largest area? _____
- 3 Which shape has the smallest perimeter? _____
- 4 Which shape has the largest perimeter? _____
- 5 Which shape has an area of 1 cm²? _____
- 6 Which shape has a perimeter of 4 cm? _____
- 7 What is the area of Shape C? _____
- 8 What is the area of Shape F? _____
- 9 What two shapes have equal perimeters? _____
- 10 What is the combined perimeters of shapes B, D and F? _____
- 11 Which shape has a perimeter half that of shape D? _____
- 12 What is the same about shapes B and D? _____
- 13 How many of shape B could fit exactly into shape C? _____
- 14 How many of shape E could fit exactly into shape C? _____
- 15 The combined areas of which three shapes equals the combined areas of shapes C and E? _____

Score 2 points for each correct answer!

SCORE /30 0-12 14-24 26-30

- 1 Which of these is the same as 3×21 ?
a $3 \times 20 \times 3 \times 1$ c $3 \times 3 \times 7$
b $3 \times 2 \times 3 \times 1$ d $3 \times 20 \times 1$
- 2 Which of these is the same as 16×21 ?
a $16 \times 20 \times 3 \times 1$ c $16 \times 3 \times 7$
b $16 \times 2 \times 3 \times 1$ d $16 \times 20 \times 1$
- 3 Which of these is the same as 8×45 ?
a $8 \times 3 \times 3 \times 5$ c $8 \times 40 \times 5$
b $8 \times 4 \times 5$ d $8 \times 2 \times 2 \times 5$
- 4 Which of these is the same as 24×45 ?
a $24 \times 4 \times 5$ c $24 \times 3 \times 5 \times 3$
b $24 \times 4 \times 10 \times 5$ d $24 \times 4 \times 24 \times 5$
- 5 Which of these is the same as 17×33 ?
a $17 \times 3 \times 1$ c $17 \times 3 \times 10$
b $17 \times 3 \times 11$ d $17 \times 3 \times 3$

Use the graphs of Mosquito, Spider and Flea Bites to answer the following questions.



- 6 If on the occasions when the three people were bitten by fleas, B had used repellent and wasn't bitten, how many times would B have been bitten in total by all the creatures? _____
- 7 If C had been bitten by spiders as many times as she had been as well as the number of times that A had been, how many times would C have been bitten in total by all the creatures? _____
- 8 If one of the spiders that bit the people was radioactive so that its bite made the person it bit into a superhero, who would that person most likely have been? _____
- 9 If A had been bitten twice as many times on one of the occasions so that he was bitten fourteen times in total, which was that occasion? _____
- 10 If one of the people was bitten only half as many times on two occasions so that in total they had been bitten 27 times, who would that have been? _____