

UNITED KINGDOM MATHEMATICS TRUST

1. Find all the two-digit prime numbers which are also prime numbers when their digits are swapped round.	2. Find a cube number which is also a square number.
3. A bus has 24 people on it. It comes to a bus stop and 11 people get off and 17 get on. How many carry on the journey?	4. Which is more, $\frac{3}{4}$ of £84, or $\frac{2}{3}$ of £96?
5. A game originally costs £18. How much will it be in a sale marked 20% off?	6. Can you share 2015 sweets equally between three children?
7. Write down five numbers which have a mean of 6, a median of 4 and a mode of 3.	8. Which multiples of 8 are factors of 120?
 9. Will 99 be one of the numbers in the sequence which starts 3, 7, 11, 15, 19,? Can you find a quick way to check? 	10. Which sorts of symmetry do these shapes all have?



 Find pairs of prime numbers which are palindromes of each other. 11, 13, 17, 31, 37, 71, 73, 79, 97. 	2. Find a cube number which is also a square number.1 and 64 are the ones under 100.
 3. A bus has 24 people on it. It comes to a bus stop and 11 people get off and 17 get on. How many carry on the journey? 30. 	4. Which is more, $\frac{3}{4}$ of £84 or $\frac{2}{3}$ of £96? $\frac{3}{4}$ of £84 = £63, $\frac{2}{3}$ of £96 = £64, so $\frac{2}{3}$ of £96 is more.
5. A game costs £18. How much will it be in a sale marked 20% off?	6. Can you share 2015 sweets equally between three children?
10% of £18 is £1.80, so 20% of £18 is £3.60, and the sale price is £18 - £3.60 = £14.40.	No. Each gets 671 sweets, with two left over.
 7. Write down five numbers which have a mean of 6, a median of 4 and a mode of 3. 3,3,4 and two other numbers greater than 4 which add to 20. 	8. Which multiples of 8 are factors of 120?8, 24, 40, and 120 itself.
than 4 which add to 20.	
9. Will 99 be one of the numbers in the sequence which starts 3, 7, 11, 15?	10. Which sorts of symmetry do these shapes all have?
Can you find a quick way to check?	
Yes. It's the 4-times table shifted back one.	They all have both line symmetry and rotational symmetry.