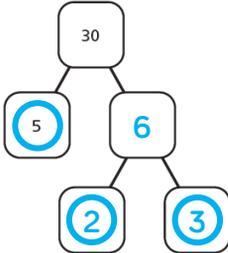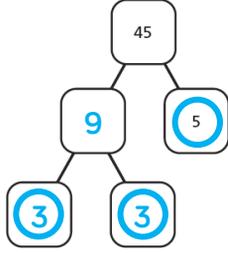| Question	Answer
1	a) The factors of 6 are **1, 2, 3, 6** The factors of 8 are **1, 2, 4, 8** The factors of 9 are **1, 3, 9** b) The factors of 3 are **1, 3** The factors of 5 are **1, 5** The factors of 7 are **1, 7** c) All the numbers in both part a) and part b) have 1 and the number as factors. In part a) there are also other factors, but in part b) these are the only factors. All the numbers in part b) are **prime** numbers.
2	$18 = 1 \times 18$ $18 = 2 \times 9$ $18 = 3 \times 6$ 18 has 6 factors so it is not prime.
3	a) 1 ②③ 4 ⑤ 6 ⑦ b) ⑰ 22 9 36 21 35 ㉓ c) 10 18 38 74 92 ② 14
4	a) An integer has exactly two factors, 1 and the number. 1 only has one factor (1) so is not prime. b) Many people think that no even numbers can be prime, since they are all a multiple of 2. But the only factors of 2 are 1 and zero, so 2 is prime.
5	 |	Even	Not even
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Prime	2	multiple possible answers, e.g. **3, 11, 19**
Not prime	multiple possible answers, e.g. **6, 10, 12**	multiple possible answers, e.g. **9, 21, 25**	
6	(Sieve of Eratosthenes grid, numbers 1–50 with composites crossed out) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47
7	No. $87 = 3 \times 29$, so is not prime.

Question	Answer
8	a) 30 5 6 2 3 b) 45 9 5 3 3 c) multiple possible prime factor trees, depending on how 36 is factorised Prime factors are: 2, 2, 3, 3 d) multiple possible prime factor trees, depending on how 66 is factorised Prime factors are: 2, 3, 11
9	3 and 97 11 and 89 17 and 83 29 and 71 41 and 59 47 and 53