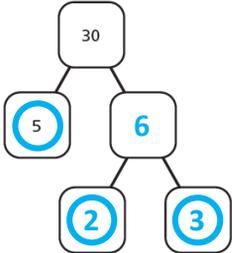
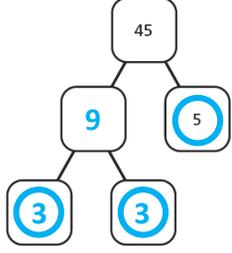


Y6 – Autumn – Block 2 – Step 5 – Primes to 100 Answers

Question	Answer																																																		
1	<p>a) The factors of 6 are <b>1, 2, 3, 6</b>                      The factors of 8 are <b>1, 2, 4, 8</b>                      The factors of 9 are <b>1, 3, 9</b></p> <p>b) The factors of 3 are <b>1, 3</b>                      The factors of 5 are <b>1, 5</b>                      The factors of 7 are <b>1, 7</b></p> <p>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.</p> <p>d) All the numbers in part b) are <b>prime</b> numbers.</p>																																																		
2	<p><math>18 = 1 \times 18</math>    <math>18 = 2 \times 9</math>    <math>18 = 3 \times 6</math>                      18 has 6 factors so it is not prime.</p>																																																		
3	<p>a) 1   <b>2</b>   <b>3</b>   4   <b>5</b>   6   <b>7</b></p> <p>b) <b>17</b>   22   9   36   21   35   <b>23</b></p> <p>c) 10   18   38   74   92   <b>2</b>   14</p>																																																		
4	<p>a) An integer has exactly two factors, 1 and the number. 1 only has one factor (1), so is not prime.</p> <p>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 itself, so 2 is prime.</p>																																																		
5	<table border="1"> <thead> <tr> <th></th> <th>Even</th> <th>Not even</th> </tr> </thead> <tbody> <tr> <th>Prime</th> <td style="text-align: center;"><b>2</b></td> <td><b>multiple possible answers, e.g. 3, 11, 19</b></td> </tr> <tr> <th>Not prime</th> <td><b>multiple possible answers, e.g. 6, 10, 12</b></td> <td><b>multiple possible answers, e.g. 9, 21, 25</b></td> </tr> </tbody> </table>		Even	Not even	Prime	<b>2</b>	<b>multiple possible answers, e.g. 3, 11, 19</b>	Not prime	<b>multiple possible answers, e.g. 6, 10, 12</b>	<b>multiple possible answers, e.g. 9, 21, 25</b>																																									
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7	<p>No  <math>87 = 3 \times 29</math>, so is not prime.</p>																																																		

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