



# Factors, Multiples and Prime Numbers

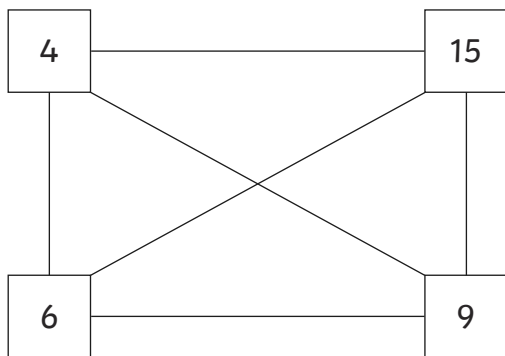
I can identify common factors, common multiples and prime numbers.



- 1) What is the highest common factor of 32 and 52 multiplied by the highest common factor of 12 and 48?

\_\_\_\_\_

- 2) Work out the lowest common multiple of each pair of linked numbers.



- 4 and 15 \_\_\_\_\_
- 4 and 9 \_\_\_\_\_
- 4 and 6 \_\_\_\_\_
- 15 and 9 \_\_\_\_\_
- 15 and 6 \_\_\_\_\_
- 9 and 6 \_\_\_\_\_

- 3) Write three pairs of prime numbers that, when added together, create square numbers.

\_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_ and \_\_\_\_\_





# Factors, Multiples and Prime Numbers **Answers**

Question	Answer						
1.	What is the highest common factor of 32 and 52 multiplied by the highest common factor of 12 and 48?						
$4 \times 12 = 48$							
2.	Work out the lowest common multiple of each pair of linked numbers.						
<table><tbody><tr><td>4 and 15 <u>60</u></td><td>15 and 9 <u>45</u></td></tr><tr><td>4 and 9 <u>36</u></td><td>15 and 6 <u>30</u></td></tr><tr><td>4 and 6 <u>12</u></td><td>9 and 6 <u>18</u></td></tr></tbody></table>		4 and 15 <u>60</u>	15 and 9 <u>45</u>	4 and 9 <u>36</u>	15 and 6 <u>30</u>	4 and 6 <u>12</u>	9 and 6 <u>18</u>
4 and 15 <u>60</u>	15 and 9 <u>45</u>						
4 and 9 <u>36</u>	15 and 6 <u>30</u>						
4 and 6 <u>12</u>	9 and 6 <u>18</u>						
3.	Write three pairs of prime numbers that, when added together, create square numbers.						
<i>Example answers: 2 and 7, 11 and 5, 13 and 3, 47 and 2, 23 and 2</i>							

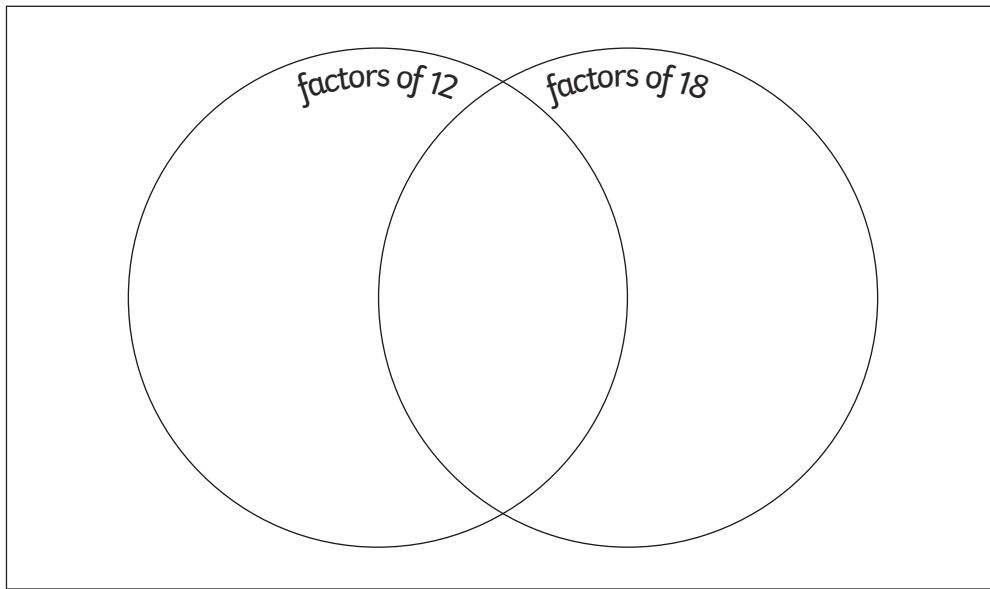


# Factors, Multiples and Prime Numbers

I can identify common factors, common multiples and prime numbers.



- 1) Use the numbers 1-18 to complete this Venn diagram:



- 2) What is the lowest common multiple for each set of numbers?

12 and 20 \_\_\_\_\_

6 and 14 \_\_\_\_\_

11 and 15 \_\_\_\_\_

- 3) Look at the numbers in the circles. Write the nearest prime number lower than the number in the left-hand boxes and the nearest prime number higher in the right-hand boxes.

<input type="text"/>	←	45	→	<input type="text"/>
<input type="text"/>	←	15	→	<input type="text"/>
<input type="text"/>	←	9	→	<input type="text"/>
<input type="text"/>	←	68	→	<input type="text"/>
<input type="text"/>	←	34	→	<input type="text"/>





# Factors, Multiples and Prime Numbers **Answers**

Question	Answer
1.	Use the numbers 1-18 to complete this Venn diagram:
	<p>A Venn diagram with two overlapping circles. The left circle is labeled "factors of 12" and the right circle is labeled "factors of 18". The intersection of the two circles contains the numbers 1, 2, 3, and 6. The left circle also contains the numbers 4 and 12. The right circle also contains the numbers 9 and 18. To the left of the circles are the numbers 5, 7, 8, 10, and 11. To the right of the circles are the numbers 13, 14, 15, 16, and 17.</p>
2.	What is the lowest common multiple for each set of numbers?
	12 and 20 <b>60</b> 6 and 14 <b>42</b> 11 and 15 <b>165</b>
3.	Look at the numbers in the circles. Write the nearest prime number lower than the number in the left-hand boxes and the nearest prime number higher in the right-hand boxes.
	<p>Fourteen boxes and five circles are arranged in five rows. Each row consists of a box on the left, a circle in the middle, and a box on the right. Arrows point from the circle to the left box and from the circle to the right box. The numbers in the boxes and circles are: (43, 45, 47), (13, 15, 17), (7, 9, 11), (67, 68, 71), (31, 34, 37).</p>

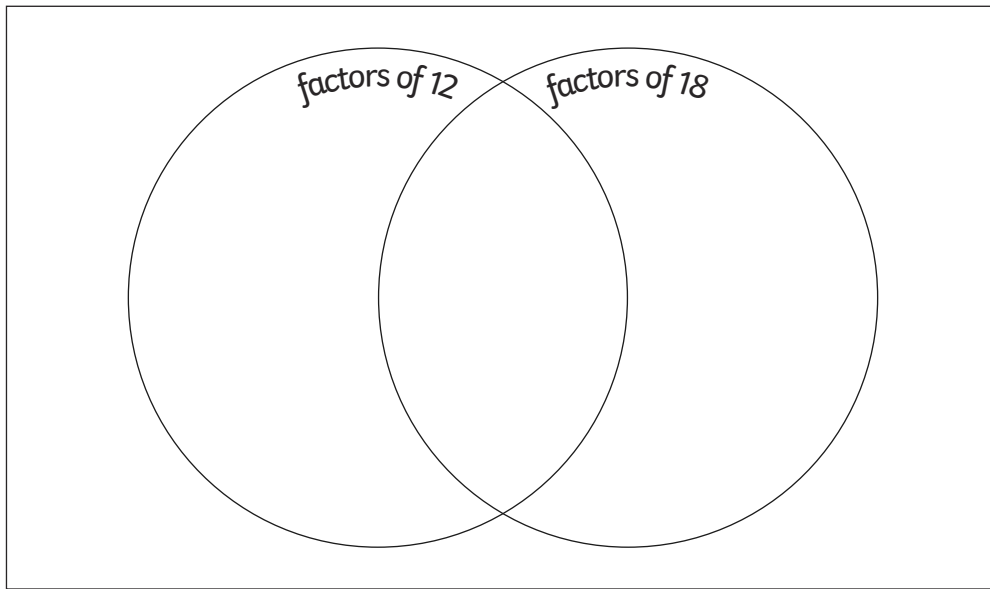


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# Factors, Multiples and Prime Numbers **Answers**

Question	Answer
1.	Use the numbers 1-18 to complete this Venn diagram:
	<p>A Venn diagram with two overlapping circles. The left circle is labeled "factors of 12" and contains the numbers 4 and 12. The right circle is labeled "factors of 18" and contains the numbers 9 and 18. The intersection of the two circles contains the numbers 1, 2, 3, and 6. To the left of the diagram are the numbers 5, 7, 8, 10, and 11. To the right are the numbers 13, 14, 15, 16, and 17.</p>
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	12 and 20 <b>60</b> 6 and 14 <b>42</b> 11 and 15 <b>165</b>
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	<p>43 ← 45 → 47 13 ← 15 → 17 7 ← 9 → 11 67 ← 68 → 71 31 ← 34 → 37</p>



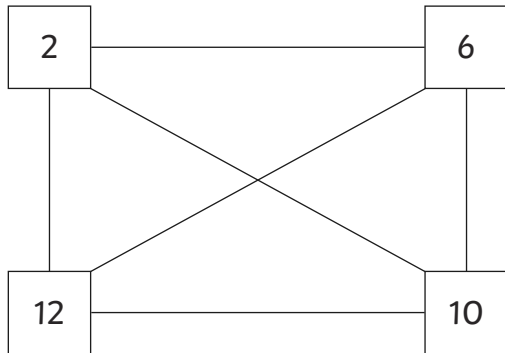
# Factors, Multiples and Prime Numbers

I can identify common factors, common multiples and prime numbers.



- 1) a) What is the highest common factor of 24 and 36? \_\_\_\_\_
- b) What is the highest common factor of 21 and 54? \_\_\_\_\_
- c) What is the highest common factor of 19 and 48? \_\_\_\_\_

- 2) Work out the lowest common multiple of each pair of linked numbers.



- 2 and 6 \_\_\_\_\_
- 6 and 10 \_\_\_\_\_
- 6 and 12 \_\_\_\_\_
- 2 and 10 \_\_\_\_\_
- 10 and 12 \_\_\_\_\_
- 2 and 12 \_\_\_\_\_

Which pairs of numbers have the same lowest common multiple?

\_\_\_\_\_

- 3) Oh no! The maths machine has broken!  
Can you help identify the prime numbers by circling the correct balls?

( 45 )	( 59 )	( 32 )	( 21 )
( 134 )	( 121 )	( 85 )	( 73 )
( 53 )	( 147 )	( 163 )	( 171 )









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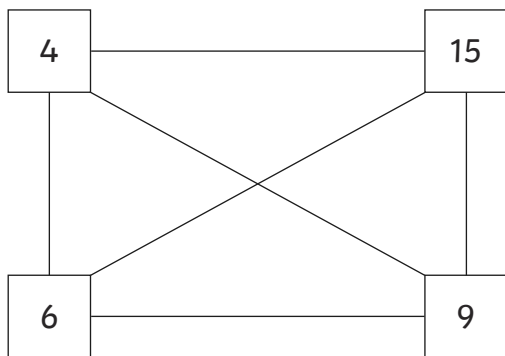
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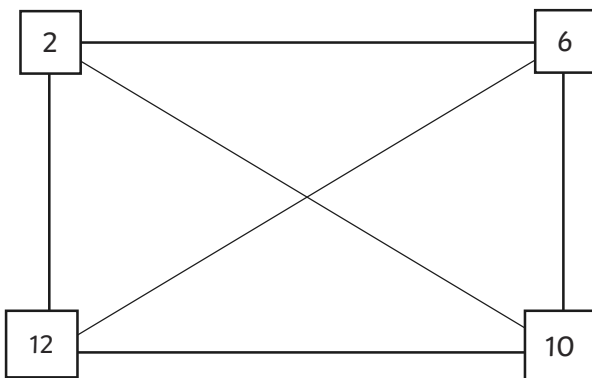
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6 and 10 \_\_\_\_\_  
6 and 12 \_\_\_\_\_  
2 and 10 \_\_\_\_\_  
10 and 12 \_\_\_\_\_  
2 and 12 \_\_\_\_\_

Which pairs of numbers have the same lowest common multiple?  
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