

You will need to show your workings out on paper or in your maths book	You will need to show your workings out on paper or in your maths book
<p>(1) Given that <math>X = 2^3 \times 3^4 \times 7</math> and <math>Y = 2^4 \times 3 \times 7^2</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>X</math> and <math>Y</math></p> <p>(ii) the lowest common multiple (LCM) of <math>X</math> and <math>Y</math>.</p>	<p>(1) Given that <math>X = 2^3 \times 3^4 \times 7</math> and <math>Y = 2^4 \times 3 \times 7^2</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>X</math> and <math>Y</math></p> <p>(ii) the lowest common multiple (LCM) of <math>X</math> and <math>Y</math>.</p>
<p>(2) Given that <math>A = 3^3 \times 5^2 \times 13^3</math> and <math>B = 3^2 \times 5^4 \times 13^2</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>A</math> and <math>B</math></p> <p>(ii) the lowest common multiple (LCM) of <math>A</math> and <math>B</math>.</p>	<p>(2) Given that <math>A = 3^3 \times 5^2 \times 13^3</math> and <math>B = 3^2 \times 5^4 \times 13^2</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>A</math> and <math>B</math></p> <p>(ii) the lowest common multiple (LCM) of <math>A</math> and <math>B</math>.</p>
<p>(3) Given that <math>C = 2^3 \times 5 \times 7^2 \times 11</math> and <math>D = 2^5 \times 5^2 \times 11^3</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>C</math> and <math>D</math></p> <p>(ii) the lowest common multiple (LCM) of <math>C</math> and <math>D</math>.</p>	<p>(3) Given that <math>C = 2^3 \times 5 \times 7^2 \times 11</math> and <math>D = 2^5 \times 5^2 \times 11^3</math> write down, as a product of powers of its prime factors,</p> <p>(i) the highest common factor (HCF) of <math>C</math> and <math>D</math></p> <p>(ii) the lowest common multiple (LCM) of <math>C</math> and <math>D</math>.</p>

## prime (9) Answers

- 1i)  $\text{HCF} = 2^3 \times 3 \times 7$ ;    1ii)  $\text{LCM} = 2^4 \times 3^4 \times 7^2$
- 2i)  $\text{HCF} = 3^2 \times 5^2 \times 13^2$ ; 2ii)  $\text{LCM} = 3^3 \times 5^4 \times 13^3$
- 3i)  $\text{HCF} = 2^3 \times 5 \times 11$ ;    3ii)  $\text{LCM} = 2^5 \times 5^2 \times 7^2 \times 11^3$

## prime (9) Answers

- 1i)  $\text{HCF} = 2^3 \times 3 \times 7$ ;    1ii)  $\text{LCM} = 2^4 \times 3^4 \times 7^2$
- 2i)  $\text{HCF} = 3^2 \times 5^2 \times 13^2$ ; 2ii)  $\text{LCM} = 3^3 \times 5^4 \times 13^3$
- 3i)  $\text{HCF} = 2^3 \times 5 \times 11$ ;    3ii)  $\text{LCM} = 2^5 \times 5^2 \times 7^2 \times 11^3$