THIRD SPACE LEARNING

GCSE Exam Questions

HCF and LCM | Number

GCSE Exam Questions: HCF and LCM

1) **(a)** Circle the highest common factor of 6, 16 and 20.

20 6 2 1 240

(1)

(b) Circle the lowest common multiple of 4, 12 and 18.

2 6 18 36 864

(1)

(2 marks)

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2) **(a)** Write 72 as a product of prime factors.
Write your answer in index form.

(3)

(b) Given that $96 = 2^5 \times 3$, calculate the highest common factor of 72 and 96.

(2)

(c) Calculate the lowest common multiple of 72 and 96.

(2)

(7 marks)

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3) **(a)** Calculate the lowest common multiple of $24a^2b^3$ and $16ab^2$

(3)

(b) The Contented Sole fish and chip shop need to order their stock for the next week. They can buy fresh fish in boxes of 30, and bags of potatoes, that would each be shared into 50 portions of chips. What is the minimum number of boxes of fish and bags of potatoes, so that the shop can sell 'fish and chips' with no portions left over?

(3)

(6 marks)

GCSE Exam Questions: HCF and LCM

4) **(a)** Given that $54x = 2 \times 3^3 \times x$, calculate the highest common factor of $90x^2$ and $54x$.

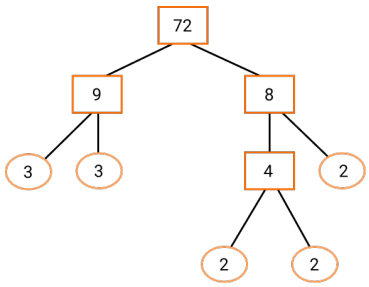
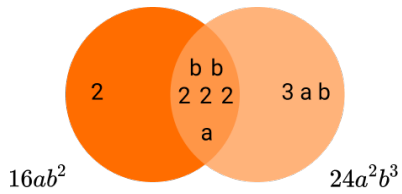
(2)

(b) Hence simplify $\frac{54x}{90x^2}$

(2)

(4 marks)

GCSE Exam Questions: HCF and LCM Answers

	Question	Answer	Marks
1) (a)	Circle the highest common factor of 6, 16 and 20. 20 6 2 1 240	**(a)** 2	**(1)**
(b)	Circle the lowest common multiple of 4, 12 and 18. 2 6 18 36 864	**(b)** 36	**(1)**
2) (a)	Write 72 as a product of prime factors. Write your answer in index form.	**(a)**  $72 = 2 \times 2 \times 2 \times 3 \times 3$ $72 = 2^3 \times 3^2$	**(1)** **(1)** **(1)**
(b)	Given that $96 = 2^5 \times 3$, calculate the highest common factor of 72 and 96.	**(b)** $2^3 \times 3$ HCF = 24	**(1)** **(1)**
(c)	Calculate the lowest common multiple of 72 and 96.	**(c)** $24 \times 3 \times 2 \times 2$ LCM = 288	**(1)** **(1)**
3) (a)	Calculate the lowest common multiple of $24a^2b^3$ and $16ab^2$.	**(a)**  LCM = $2 \times (b^2 \times 2^3 \times a) \times (3 \times a \times b)$ LCM = $48a^2b^3$	**(1)** **(1)** **(1)**

GCSE Exam Questions: HCF and LCM Answers

	Question	Answer	Marks
(b)	The Contented Sole fish and chip shop need to order their stock for the next week. They can buy fresh fish in boxes of 30, and bags of potatoes, that would each be shared into 50 portions of chips. What is the minimum number of boxes of fish and bags of potatoes, so that the shop can sell 'fish and chips' with no portions left over?	**(b)** LCM (30, 50) = 150 150 ÷ 30 = 5 150 ÷ 50 = 3	**(1)** **(1)** **(1)**
4) (a)	Given that $54x = 2 \times 3^3 \times x$, calculate the highest common factor of $90x^2$ and $54x$.	**(a)** $90x^2 = 2 \times 3^2 \times 5 \times x^2$ HCF = $2 \times 3^2 \times x = 18x$	**(1)** **(1)**
(b)	Hence simplify $\frac{54x}{90x^2}$	**(b)** $\frac{3}{5}$ or $\frac{1}{x}$ seen $\frac{3}{5x}$	**(1)** **(1)**

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