Factor pairs

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. List all positive factor pairs of 12. [2 marks]

Try one, two and three. Four would repeat three and four.

Answer: 1 × 12, 2 × 6 and 3 × 4.

2. List the positive factors of 15 in order. [2 marks]

Use 1 × 15 and 3 × 5.

Answer: 1, 3, 5, 15.

3. Is 6 a factor of 42? Explain. [1 mark]

6 × 7 = 42, so division by six leaves no remainder.

Answer: Yes.

4. Is 5 a factor of 32? Explain. [1 mark]

5 × 6 = 30 and 5 × 7 = 35. Neither is thirty-two.

Answer: No.

5. List each factor pair of 36 once, including the equal-factor pair. [2 marks]

Five does not divide thirty-six. The pair six and six is included once.

Answer: 1 × 36, 2 × 18, 3 × 12, 4 × 9 and 6 × 6.

6. A garden has 30 square tiles. It must have at least three rows and at least three tiles per row. Give all possible rectangular factor pairs, ignoring turns. [3 marks]

The pairs are 1 × 30, 2 × 15, 3 × 10 and 5 × 6.

Remove pairs with a side shorter than three.

Answer: 3 × 10 and 5 × 6.