Multiplying same-base powers

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Write $5^2 \times 5^3$ as one power. [2 marks]

$2 + 3 = 5$.

Answer: 5^5

2. Write $2^4 \times 2^2$ as one power, then evaluate. [2 marks]

$2^{4+2} = 2^6 = 64$.

Answer: $2^6 = 64$

3. Write 7×7^3 as one power. [2 marks]

$7^1 \times 7^3 = 7^{1+3}$.

Answer: 7^4

4. Write $10^3 \times 10^2$ as one power. [2 marks]

$3 + 2 = 5$.

Answer: 10^5

5. Write $4^2 \times 4$ as one power. [2 marks]

$4^2 \times 4^1 = 4^{2+1}$.

Answer: 4^3

6. Find m if $3^2 \times 3^m = 3^7$. [3 marks]

$2 + m = 7$, so $m = 5$.

Answer: 5