Multiple choice questions - Powers, roots and standard form

Year: Year 8 · 10

Question 1 What is the value of 4^3?

- **A.** 12
- **B.** 64
- **C.** 16
- **D.** 81

Question 2 Simplify $a^3 \times a^5$.

- **A.** a^{15}
- **B.** a^8
- **C.** a^2
- **D.** $2a^8$

Question 3 Simplify $x^7 \div x^2$.

- **A.** x^5
- **B.** x^9
- **C.** x^{14}
- **D.** $x^{3.5}$

Question 4 What is 6^0?

- **A.** 0
- **B.** 6
- **C.** 1
- **D.** Undefined

Question 5 What is 5^{-2}?

- **A.** -25
- **B.** $\frac{1}{25}$
- **C.** -10
- **D.** $\frac{1}{10}$

Question 6 Which number is in standard form?

- **A.** 25×10^3
- **B.** 0.4×10^5

- **C.** 3.6×10^{-2}
- **D.** 10×10^{4}

Question 7 Write 7 200 000 in standard form.

- **A.** 7.2×10^{6}
- **B.** 72×10^{5}
- **C.** 7.2×10^{5}
- **D.** 0.72×10^{7}

Question 8 Write 5×10^{-3} as a decimal.

- **A.** 0.5
- **B.** 0.05
- **C.** 0.005
- **D.** 0.0005

Question 9 What is $\sqrt[3]{64}$?

- **A.** 8
- **B.** 4
- **C.** 16
- **D.** 32

Question 10 $(2 \times 10^{4}) \times (4 \times 10^{3}) =$

- **A.** 8×10^{7}
- **B.** 6×10^{7}
- **C.** 8×10^{12}
- **D.** 8×10^{1}

Answer grid - Powers, roots and standard form

Year: Year 8

Question	Answer	Explanation
1	**B**	$4 \times 4 \times 4 = 64$.
2	**B**	Add the indices: 3 + 5 = 8.
3	**A**	Subtract the indices: 7 - 2 = 5.
4	**C**	Any non-zero number to the power 0 is 1.
5	**B**	$5^{-2} = \frac{1}{5^2} = \frac{1}{25}$.
6	**C**	Only 3.6×10^{-2} has a first number between 1 and 10.
7	**A**	The point moves 6 places.
8	**C**	Move the point 3 places left.
9	**B**	$4^3 = 64$.
10	**A**	$2 \times 4 = 8$, $10^{4+3} = 10^7$.