Multiple choice questions - Indices and standard form

Year: Year 10 · 10

Question 1 $a^3 \times a^4 =$

- **A.** a^{12}
- **B.** a^7
- **C.** $2a^7$
- **D.** a^1

Question 2 $(a^2)^5 =$

- **A.** a^7
- **B.** a^{10}
- **C.** $5a^2$
- **D.** a^{25}

Question 3 $2^{-3} =$

- **A.** -8
- **B.** -6
- **C.** $\frac{1}{8}$
- **D.** $\frac{1}{6}$

Question 4 0.0063 in standard form is

- **A.** 6.3×10^3
- **B.** 6.3×10^{-3}
- **C.** 63×10^{-4}
- **D.** 0.63×10^{-2}

Question 5 $(5 \times 10^3) \times (4 \times 10^2) =$

- **A.** 2×10^6
- **B.** 20×10^5
- **C.** 9×10^5
- **D.** 2×10^5

Question 6 $3^0 =$

- **A.** 0

- ◯ **B.** 1
- ◯ **C.** 3
- ◯ **D.** undefined

Question 7 (Higher) $8^{\frac{2}{3}} =$

- ◯ **A.** 2
- ◯ **B.** 4
- ◯ **C.** 16
- ◯ **D.** $\frac{16}{3}$

Question 8 12×10^4 in standard form is

- ◯ **A.** 1.2×10^4
- ◯ **B.** 1.2×10^5
- ◯ **C.** 12×10^4
- ◯ **D.** 1.2×10^3

Question 9 $x^8 \div x^3 =$

- ◯ **A.** x^{11}
- ◯ **B.** x^5
- ◯ **C.** x^{24}
- ◯ **D.** $x^{\frac{8}{3}}$

Question 10 (Higher) $9^{-\frac{1}{2}} =$

- ◯ **A.** -3
- ◯ **B.** $\frac{1}{3}$
- ◯ **C.** 3
- ◯ **D.** $-\frac{1}{3}$

Answer grid - Indices and standard form

Year: Year 10

Question	Answer	Explanation
1	**B**	Add the powers.
2	**B**	Multiply the powers.
3	**C**	$\frac{1}{2^3}$.
4	**B**	The point moves 3 places to the right.
5	**A**	$20 \times 10^5 = 2 \times 10^6$ in standard form.
6	**B**	Any non-zero number to the power 0 is 1.
7	**B**	$(\sqrt[3]{8})^2 = 2^2 = 4$.
8	**B**	$12 = 1.2 \times 10$.
9	**B**	Subtract the powers.
10	**B**	$\frac{1}{\sqrt{9}} = \frac{1}{3}$.