



INDIAN SCHOOL AL WADI AL KABIR

Class VII, Mathematics (2022-23)

Worksheet DTQ – Exponents & Powers

SHORT ANSWER TYPE QUESTIONS- 7 QUESTIONS. (2 Marks each)

Q1.	Find the value of (1) $(-2)^5$ (2) 7^4
Q2.	Express in exponential form: 1296
Q3.	Simplify and express in exponential form: $\{(5^2)^5 \times 5^4\} \div (5^3 \times 5^6)$
Q4.	Write in standard form: (1) 856700000 (2) 60052870000
Q5.	Write the decimal number for (1) $8 \times 10^4 + 6 \times 10^3 + 2 \times 10^2 + 4 \times 10^1$ (2) $7 \times 10^5 + 9 \times 10^4 + 3 \times 10^2 + 9 \times 10^1 + 2 \times 10^0$
Q6.	Express in exponential form: (1) $3 \times 3 \times 3 \times 3 \times 2 \times 2 \times 2$ (2) $x \times x \times y \times y \times y \times y \times 5 \times 5 \times 5$
Q7.	Find the value of $(5^0 + 3^0 + 8^0) \times (2^0 + 7^0)$

SHORT ANSWER TYPE- 5 QUESTIONS. (3 Marks each)

Q8.	Express as a product of powers of prime numbers: 1500×216
Q9.	Simplify: $\frac{(2^4)^3 \div 2^{10}}{3^{10} \div (3^3)^3}$
Q10.	Simplify: (1) $(7^3 \div 7^2) \times 7^4$ (2) $(2^7)^2 \div 2^5$
Q11.	Find the value of (1) $3^2 \times 2^3 \times (-1)^3$ (2) $7^2 \times 2^4$
Q12.	Write the expanded form of following by using the exponents (1) 206934 (2) 72105

LONG ANSWER TYPE- 3 QUESTIONS. (4 Marks each)

Q.13	Simplify by using laws of exponents $\frac{8^3 \times 9^5 \times 25^4}{3^3 \times 4^2 \times 15^7}$
Q14.	Simplify and express in exponential form by using laws of exponents: $\frac{(3^4)^2 \div 3^7 \times (3^5 \div 3^2)}{(3^2 \times 3^4) \div (3^2)^2 \times 3^2}$
Q15.	Simplify by using laws of exponents: $\frac{4 \times 12^4 \times 9}{3^3 \times 2^6 \times 6^3}$

ANSWERS					
Q1.	(1) -32 (2) 2401	Q2.	$2^4 \times 3^4$	Q3.	5^5
Q4.	(1) 8.567×10^8 (2) 6.00528×10^{10}	Q5.	(1) 86240 (2) 790392	Q6.	(1) $3^4 \times 2^3$ (2) $X^3 \times Y^4 \times 5^3$
Q7.	6	Q8.	$2^5 \times 3^4 \times 5^3$	Q9.	$\frac{4}{3}$
Q10.	(1) 7^5 (2) 2^9	Q11.	(1) -72 (2) 784	Q12.	(1) $2 \times 10^5 + 6 \times 10^3 + 9 \times 10^2 + 3 \times 10^1 + 4 \times 10^0$ (2) $7 \times 10^4 + 2 \times 10^3 + 1 \times 10^2 + 5 \times 10^0$
Q13.	160	Q14.	3^4	Q15.	2