



INDIAN SCHOOL AL WADI AL KABIR
Class VIII, Mathematics
EXPONENTS AND POWERS WORKSHEET (2025-26)

Multiple Choice Questions

Q.1.	The usual form of 5.649×10^{-4} is:							
	A	564900.0	B	0.0005649	C	0.5649	D	0.005649
Q.2.	Write the value of $\frac{1}{4^{-2}}$							
	A	8	B	64	C	16	D	4
Q.3.	The multiplicative inverse of 8^{-3} is							
	A	8^3	B	$\frac{1}{8^3}$	C	8^{-3}	D	8^{-6}
Q.4.	The standard form of 0.000000078 is:							
	A	7.8×10^8	B	78×10^8	C	7.8×10^{-8}	D	78×10^{-8}
Q.5.	The value of $(3^0 + 2^{-2}) \times \frac{4}{5}$							
	A	1	B	2	C	4	D	5
Q.6.	The value of $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-3} + \left(\frac{1}{2}\right)^{-4}$							
	A	64	B	47	C	40	D	60
Q.7.	The multiplicative inverse of $\left(\frac{7}{9}\right)^{-3}$							
	A	1	B	$\left(\frac{7}{9}\right)^3$	C	$\left(\frac{9}{7}\right)^3$	D	$\frac{7}{9}$
Q.8.	The exponential form of $\left(\frac{-1}{2}\right) \times \left(\frac{-1}{2}\right) \times \left(\frac{-1}{2}\right) \times \left(\frac{-1}{2}\right) \times \left(\frac{-1}{3}\right) \times \left(\frac{-1}{3}\right)$							
	A	$\left(\frac{1}{2}\right)^2 \left(\frac{1}{3}\right)^4$	B	$\left(\frac{-1}{2}\right) \times \left(\frac{-1}{3}\right)$	C	$\frac{1}{14}$	D	$\left(\frac{1}{2}\right)^4 \left(\frac{1}{3}\right)^2$
Q.9.	The value of $2^{10} \div 2^{-10}$							
	A	2^{100}	B	2^{-20}	C	2^0	D	2^{20}

Q.10	Find the value of 'p' so that $5^{p+1} \times 5^5 = 5^{12}$							
	A	12	B	5	C	6	D	4
	LONG ANSWER QUESTIONS:							
Q.11	Evaluate: a) $(3^{-1} \times 5^{-1})^{-1} \div 3^{-1}$ b) $\left[\left\{\left(\frac{3}{4}\right)^2\right\}^0\right]^{-3}$							
Q.12	Expand 1876.347 using exponents.							
Q.13	Write the decimal number for $6 \times 10^6 + 5 \times 10^4 + 9 \times 10^2 + 3 \times 10^1 + 1 \times 10^{-2}$							
Q.14	Simplify using the laws of exponents: $\frac{125 \times 5^4 \times a^6}{5^3 \times a^4}$							
Q.15	Express 2048 as a power 2.							
Q16	Simplify: $\left[\left(\frac{2}{9}\right)^{15} \div \left(\frac{2}{9}\right)^{13}\right] \div \left(\frac{2}{9}\right)^2$							
Q.17	Calculate the value of "x" in the following: $\left(\frac{4}{11}\right)^3 \times \left(\frac{4}{11}\right)^{-2} \times \left(\frac{4}{11}\right)^4 = \left(\frac{4}{11}\right)^{x-1}$							
Q.18	Simplify: $\frac{3^3 \times 12^2 \times 36}{2^2 \times 6}$							
Q.19	Write the multiplicative inverse of $(2^2 + 3^2)^{-3}$ (CBQ)							
Q.20	CASE STUDY-1: In order to spread awareness about the effects of deforestation, Priya organized a tree plantation drive. She planted 2 saplings on the first day, 2^2 saplings on the next day, 2^3 saplings on the third day and so on for 7 consecutive days starting on Monday.							
	Day	No. of saplings						
	1	$2=2^1$						
	2	$2 \times 2 = 2^2$						
	3	$2 \times 2 \times 2 = 2^3$						
	4	$2 \times 2 \times 2 \times 2 = 2^4$						
	i) Find the number of saplings planted on the fifth day. ii) Find the number of saplings planted on Wednesday. iii) On which day of the week, 2^7 saplings were planted? iv) How many total saplings are planted at the end of 4 days?							