



INDIAN SCHOOL AL WADI AL KABIR
 Class VIII, Mathematics
WORKSHEET (MCQ& CASE STUDY) -EXPONENTS AND POWERS

Multiple Choice Questions

Q.1.	The multiplicative inverse of 2^{-5} is							
	A	2 ⁵	B	2 ⁻⁵	C	1/2 ⁵	D	2 ²
Q.2.	The value of $\left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{2}\right)^{-1} + \left(\frac{1}{5}\right)^{-1}$							
	A	10	B	16	C	15	D	1
Q.3.	If $3^{x-5}=27$, find the value of x.							
	A	30	B	8	C	3	D	5
Q.4.	The usual form of 8.349×10^{-7}							
	A	8349000	B	8.349000	C	0.000008349	D	0.0000008349
Q.5.	Simplify: $\frac{3^{-5} \times 5^{-7} \times (-2)^4}{3^{-6} \times 5^{-9} \times (-2)^3}$							
	A	250	B	150	C	-150	D	0
Q.6.	The standard form of 0.000000349 is							
	A	34.9×10^{-8}	B	3.49×10^{-7}	C	0.34×10^{-8}	D	3.49×10^{-6}
Q.7.	$6 \times 10^6 + 5 \times 10^4 + 9 \times 10^2 + 3 \times 10^1 + 8 \times 10^0 + 1 \times 10^{-2}$ is equal to							
	A	6050938.01	B	6050938.1	C	605938.01	D	650938.01
Q.8.	The value of $(5^0 + 6^0) \times 2^2$							
	A	2 ³	B	2 ²	C	2 ⁰	D	0
Q.9.	The multiplicative inverse of $(-2^3)^{-3}$ (CBQ)							
	A	$(-2)^{-6}$	B	$(2)^{-9}$	C	$(-2)^9$	D	$(-2)^{-9}$
Q.10.	Simplify: $\left[\left(\frac{2}{19}\right)^{15} \div \left(\frac{2}{19}\right)^{13}\right] \div \left(\frac{2}{19}\right)^2$							
	A	$\left(\frac{2}{19}\right)$	B	2	C	1	D	0

Source Based Questions: The weight of a poppy seed is 0.0002985 g. A jar contains 50,40,000 poppy seeds approximately. A measuring cup that can hold approximately 45,000 poppy seeds is used to measure the seeds. Based on the above information answer the following:

- Q.11. Express the weight of a poppy seed in standard form.
- Q.12. A teaspoon can hold 3125 seeds approx. Express 3125 in exponential form with base 5.
- Q.13. Write the approximate number of poppy seeds in 2 measuring cups. Express your answer in standard form.
- Q.14. If $3^{2x-2}=81$, find the value of x.
- Q.15. Write the reciprocal of $\frac{1}{50,00,00,000}$ and express it in the exponential form.

CASE STUDY: The distance between planets varies depending on their position on the orbital path around Sun. The table below shows the average distance between two planets.

Planets	Average distance between them
Venus to Earth	40,000,000 km
Earth to Mars	225,000,000 km



Q.16.

- I. Express the distance from the Venus to Earth in the standard form.
- II. Average distance between which two planets in the above table is more? By how much?
- III. Express the distance from Earth to Mars in the standard form.

ANSWER KEY

1	A	2	B	3	B	4	D
5	C	6	B	7	A	8	A
9	C	10	C	11	2.985×10^{-4}	12	5^5
13	$90000=9 \times 10^4$	14	3	15	5×10^8	16 I)	4×10^7
16.II)	Earth& Mars, 185000000km	16.III)	2.25×10^8				
