St. Andrews Scots Sr. Sec. School

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Session: 2024-2025 - Worksheet

| Class: VIII | Subject: Mathematics | Topic: Powers & Exponents | Worksheet-04 |

Do as directed.

Q1: Find the value of x here $\left(\frac{11}{9}\right)^3 \times \left(\frac{11}{9}\right)^6 = \left(\frac{11}{9}\right)^{2x-1}$

Q2: Express the following numbers in standard form.
    (i) 0.0000000015
    (ii) 102000000000000000

Q3: Express the following numbers in usual form.
    (i) 34.02 x 10^{-5}
    (ii) 2.0001 x 10^8

Q4: Solve for the variables $\frac{3^x \times 3}{3^{2x+1}} = 27$

Q5: Simplify: $1 + [\left(\frac{1}{3}\right)^3 - \left(\frac{1}{2}\right)^{-3}] \div 38$

Q6: If $5^{3x-1} \div 25 = 125$, Then the value x is

Q7: Express 8^{-4} as a power with the base 2.

Q8: 5 books and 5 paper sheets are placed in a stack. Find the total thickness of the stack if each book has a thickness of 20 mm and each sheet has a thickness of 0.016 mm.

Q9: Express the following number as a product of powers of prime factors.

    (a)1225

    (b)3600

Q10: What is the area of the rectangle with the width of $6x^2$ and the length of $12x^3$? After finding the area, find the solution at x=2m.