

POWERS AND NUMBERS/ INDEX NOTATION

1. Write in index notation a) $2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ b) $7 \times 7 \times 7 \times 7 =$ c) $8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8 =$ d) $p \times p \times p \times p \times p \times p =$ e) $3 \times 2 \times 2 \times 3 \times 3 \times 2 =$	2. Evaluate each of the following a) $3^2 + 2^4 =$ b) $4^2 - 3^2 =$ c) $8^0 =$ d) $5^2 \times 2^3 =$ e) $2^5 + 3^1 + 5^0 =$
3. What power is missing from each box to make the following true a) $3^7 \times 3^2 = 3^{\square}$ b) $8^7 \div 8^3 = 8^{\square}$ c) $(6^4)^3 = 6^{\square}$ d) $9^8 \div 9^9 = 9^{\square}$ e) $6^{\square} \times 6 = 6^5$ f) $7^{\square} \div 7^4 = 7^6$ g) $3^4 \times 3^{\square} \times 3^7 = 3^5$ h) $8^{12} \div 8^{\square} = 8^7$ i) $5^9 \times 5^{\square} = 5^6$	4. Simplify each of the following. Write your power in the box a) $3^6 \times 3^2 \div 3^5 = 3^?$ b) $8^9 \div 8^5 \times 8^2 = 8^?$ c) $(2^4)^3 \times 2^5 = 2^?$ d) $4^9 \div (4^2)^3 = 4^?$ e) $\frac{5^6 \times 5^4}{5^3} = 5^?$ f) $\frac{7^8}{7^2 \times 7^3} = 7^?$ g) $\frac{2^6 \times 2^7}{2 \times 2^3} = 2^?$