6-1 Enrichment

Rational Exponents and Properties of Exponents

For Exercises 1–12, the word in parentheses stands for a number. Use the value the table assigns to each letter of the alphabet to find the sum of the letters in each word. Each exponent is expressed with letters. Replace each letter with its corresponding number from the table to find the exponent. Simplify each power.

A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*
1	2	3	4	5	6	7	8	9	10	11	12	13

N	*O*	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*
14	15	16	17	18	19	20	21	22	23	24	25	26

1. $(\text{add})^{\frac{A}{B}}$

2. $(\text{Wednesday})^{\frac{A}{B}}$

3. $(\text{zero})^{\frac{A}{C}}$

4. $(\text{sandwich})^{\frac{A}{D}}$

5. $(\text{she})^{\frac{A}{E}}$

6. $(\text{American})^{\frac{A}{F}}$

7. $(\text{ski slopes})^{\frac{A}{C}}$

8. $(\text{year round})^{\frac{1}{B}}$

9. $(\text{denominator})^{\frac{A}{G}}$

10. $(\text{wireless network})^{\frac{A}{C}}$

11. $(\text{correlation coefficient})^{\frac{A}{B}}$

12. $(\text{Yosemite National Park})^{\frac{A}{E}}$

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A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

1. (add)$^{\frac{A}{B}}$ $9^{\frac{1}{2}} = 3$

2. (Wednesday)$^{\frac{A}{B}}$ $100^{\frac{1}{2}} = 10$

3. (zero)$^{\frac{A}{C}}$ $64^{\frac{1}{3}} = 4$

4. (sandwich)$^{\frac{A}{D}}$ $81^{\frac{1}{4}} = 3$

5. (she)$^{\frac{A}{E}}$ $32^{\frac{1}{5}} = 2$

6. (American)$^{\frac{A}{F}}$ $64^{\frac{1}{6}} = 2$

7. (ski slopes)$^{\frac{A}{C}}$ $125^{\frac{1}{3}} = 5$

8. (year round)$^{\frac{1}{B}}$ $121^{\frac{1}{2}} = 11$

9. (denominator)$^{\frac{A}{G}}$ $128^{\frac{1}{7}} = 2$

10. (wireless network)$^{\frac{A}{C}}$ $216^{\frac{1}{3}} = 6$

11. (correlation coefficient)$^{\frac{A}{B}}$ $225^{\frac{1}{2}} = 15$

12. (Yosemite National Park)$^{\frac{A}{E}}$ $243^{\frac{1}{5}} = 3$