

POWER TO THE EXPONENT

SOME MEDICAL ADVICE IS WRITTEN IN CODE AT THE BOTTOM OF THE PAGE. TO CRACK THE CODE:

Figure out the value of any expression below. Then find your answer in the code. Each time you see the answer in the code, write the letter of that problem above it. Keep working until you have decoded the message.

$B = 4^2 =$	$F = 8^3 =$	$A = 4^5 =$
$H = 9^2 =$	$W = 2^3 =$	$S = 2^6 =$
$G = 7^2 =$	$C = 4^4 =$	$N = 7^1 =$
$V = 10^2 =$	$I = 5^4 =$	$R = 1^8 =$
$T = 3^3 =$	$U = 7^4 =$	$E = 10^3 =$
$Y = 6^3 =$	$D = 3^5 =$	$O = 5^1 =$
$K = 5^3 =$		$L = 6^5 =$

EXPERT MEDICAL ADVICE

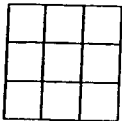
TO	AVOID	THAT	RUN	DOWN	FEEL	SLING
27-5	1024-100-5-625-243	27-81-1024-27	1-2401-7	243-5-8-7	512-1000-1000-7776-625-7-49	
LOOK	BOTH	WAYS	BEFORE	YOU	CROSS	
7776-5-5-125	16-5-27-81	8-1024-216-64	16-1000-512-5-1-1000	216-5-2401	256-1-5-64-64	

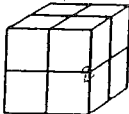
1.4 Exponents and Powers

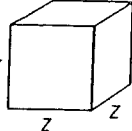
MATHPOWER™ Nine, pp. 16-18

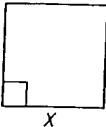
Exponential Form	Repeated Multiplication	Standard Form
5^3	$5 \times 5 \times 5$	125
3^5	$3 \times 3 \times 3 \times 3 \times 3$	243

What power does each figure represent?

- 

3²
- 

2³
- 

z³
- 

x²

Complete the table.

	Power	Base	Exponent	Standard Form
5.	6 ²	6	2	36
6.	2 ³	2	3	8
7.	y ⁴	y	4	y ⁴
8.	a ⁵	a	5	a ⁵

Fill in the blanks.

- Word Form: four cubed

Repeated Multiplication: 4 × 4 × 4

Exponential Form: 4³

Standard Form: 64
- Word Form: six to the power four

Repeated Multiplication: 6 × 6 × 6 × 6

Exponential Form: 6⁴

Standard Form: 1296

- Word Form: b squared

Repeated Multiplication: 5 × b

Exponential Form: b²

Standard Form: b²

- Word Form: fifth power of t

Repeated Multiplication: t × t × t × t × t

Exponential Form: t⁵

Standard Form: t⁵

- Word Form: 2 tenths cubed

Repeated Multiplication: (0.2)(0.2)(0.2)

Exponential Form: (0.2)³

Standard Form: 0.008

- Word Form: ten to the exponent four

Repeated Multiplication: 10 × 10 × 10 × 10

Exponential Form: 10⁴

Standard Form: 10000

Which is larger?

- 2⁵ or 5² 2⁵
- 3⁴ or 4³ 3⁴
- 0.5³ or 0.3⁵ 0.5³
- 1.8² or 8.1² 8.1²

Evaluate.

- 3² + 5² 34
- 2³ - 2² 4
- 5³ × 2³ 1000
- 3³ × 2² 108

23. Evaluate for z = 3.

- a⁴ 81
- 6z² - 16 38
- 3z³ × 2z² 1458
- 3z⁴ - 9 234

24. Evaluate for a = 5 and b = 3. Are the expressions equal? If not, circle the smaller expression.

- a² + b³ or a³ + b² _____
- a²b² or (ab)² equal