## Bones

Use the clues to complete the story.

There are _____ named bones in the human body. Of these, _____ are in the skull. Each ear
        A   B
contains _____ small bones. Each hand has _____ bones. Of these hand bones, _____
        C   D   E
are in the fingers. There are _____ bones in each finger and _____ bones in the thumb.
                           F   G
There are _____ bones in each foot. Of those foot bones, _____ bones are in the toes.
        H   I

Clues

A. $\sqrt{40,000}$ + single-digit perfect number

B. 10% of 220

C. Single-digit triangular number that is prime

D. $2^4 + 2^3 + 2^1 + 2^0$

E. Both digits are powers of 2. The sum of the digits is 5. The number is less than 20.

F. $3^3 \div 3^2$

G. Even prime number

H. Sum of the digits is 8. The tens digit is $\frac{1}{3}$ the ones digit.

I. Greatest prime number less than 20
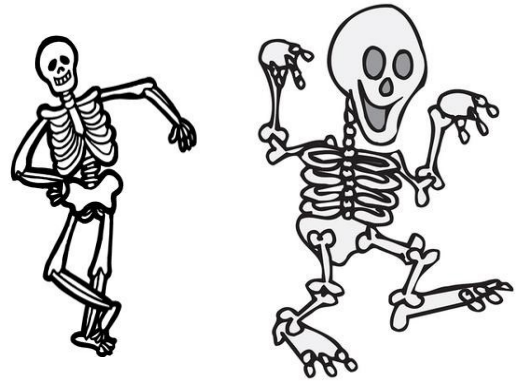
Words Worth

Use the chart of letter values.

Create 3-letter words to meet the criteria.

1. All letters are different. Total value: 7

   Word: _____
2. Two letters are the same. Total value: 9

   Word: _____
3. All letters are different. Total value: 10

   Word: _____
4. All letters are different. Total value: 23

   Word: _____
5. Two letters are the same. Total value: 56

   Word: _____

Example

3-letter word with all letters different. Total value 6.

Word: CAB (3+1+2=6)
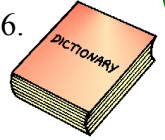
		9	I	18	R
1	A	10	J	19	S
2	B	11	K	20	T
3	C	12	L	21	U
4	D	13	M	22	V
5	E	14	N	23	W
6	F	15	O	24	X
7	G	16	P	25	Y
8	H	17	Q	26	Z

A, B, C, D…

Use the clues to complete the sentences.
Same letters represent same numbers.

1. $A^3 = 8$; so A = _____

2. $A \times B \times C = 72$

   $A = \sqrt{B}$, so B = _____ and C = _____

3. $(D + 1)^2 = 9 \times B^2$, so D = _____

4. $E \times (F + G) = 100$

   $G - F = B$

   $G + F = 10$, so G = _____, F = _____, and E = _____

5. $H = \sqrt{121} + \sqrt{169}$, So H = _____

6. $I = 1000 \div A \div B \div 5$, so I = _____

7. $J = (C + D)^2 + E^2$, so J = _____

Marathon Marvels

In 490 B.C., a Greek courier ran 24 miles from the Plain of Marathon to Athens with the news of a Greek victory over the Persian army. This was the first "Marathon" run. The distance of a marathon was not standardized until 1924 when it was set at 26 miles 385 yards, or 26.2 miles.

The table shows Boston Marathon winners in 2016.

Division	Winner	Time (hours:minutes:seconds)	Time to the nearest quarter hour
Men's	Lemi Berhanu Hayle	2:12:45	2.25 hr
Women's	Atsede Baysa	2:29:19	2.50 hr
Men's Wheelchair	Marcel Hug	1:12:06	1.5 hr
Women's Wheelchair	Tatyana McFadden	1:42:16	1.75 hr

Use the marathon distance of 26.2 miles, your calculator, and the time to the nearest quarter hour to solve these prblems.

1. Lemi Berhanu Hayle's average speed was _____ miles per hour.

2. Atsede Baysa's average speed was _____ miles per hour.

3. Marcel Hug's average speed was _____ miles per hour.

4. Tatyana McFadden's average speed was _____ miles per hour.

5. At those average speeds, how many miles could each of these competitors travel in 2 hours?

    A. Lemi Berhanu Hayle _____

    B. Atseda Baysa _____

    C. Marcel Hug _____

    D. Tatyana McFadden _____

βαιΖαΝθς

Balzano is a puzzle that will tap into your logical reasoning abilities. Read directions carefully, then try your hand at Balzano Shapes.
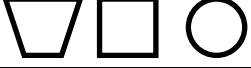
Directions:
Your job is to figure out the Desired Arrangement (the solution) of three elements (shapes) from clues that provide information about the shapes and their locations. The possible shapes are **circle, square, non-square parallelogram, trapezoid.** No shape may be repeated.

The **Arrangement Column** shows sets of shapes in rows. In the Balzano puzzle below, the second row, arranged in order from left to right, is: trapezoid, circle, square.

Correct Shape in the Correct Place identifies the number of elements that are the correct shape AND in the right place. The second row has one shape in the right place.

Correct Shape in the Wrong Place identifies the number of correct shapes BUT in the wrong place. The second row has one shape in the wrong place.

Incorrect Shape identifies the number of shapes that do not belong in the arrangement. The second row has one shape in the wrong place.

	Correct Shape/ Correct Place	Correct Shape/ Wrong place	Wrong shape/ Wrong place
□ ▽ ▱	1	2	0
▽ ○ □	1	1	1
□ ▱ ▽	0	3	0
○ □ ▱	2	0	1
▽ □ ○	1	1	1
	3	0	0