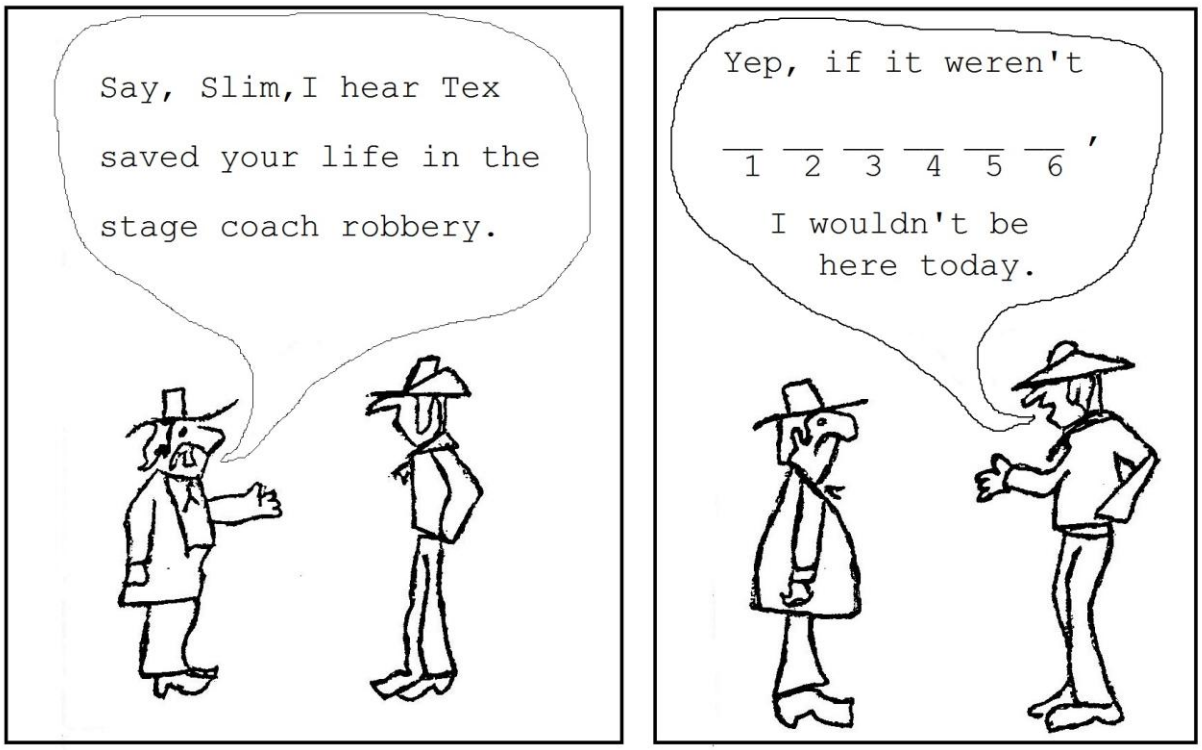
Ratio and Proportion

By David Pleacher

Directions:

First solve the 22 problems below and find the matching letters for numbers 1 to 17.
Then unscramble the letters in each of the six words to form a math word.
Place the math words in the appropriate boxes.
The letter in the box with a 2 in it will be the second letter in the cartoon below.



FIRST WORD

I. Determine the ratio of 40 minutes to 3 hours.
II. Determine the ratio of 10x to 8x.
III. If AB = 10 and AC = 2 and AC + CB = AB, Determine the ratio of CB : BA.
IV. Determine x if 4 / x = 2 / 7.

SECOND WORD

V. Determine the value of x if $\frac{x+1}{x+4}=\frac{2}{3}$

VI. The angles of a triangle are in the ratio of 1 : 5 : 6. Determine the measure of the smallest angle.

VII. Simplify the following ratio: $\frac{x^2-9}{x^2-2x-3}$

VIII. Determine the ratio of x to y if $2x = 9y$.

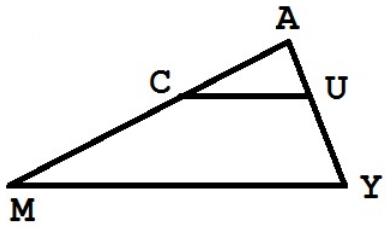
IX – X. If $\frac{3}{x}=\frac{y}{16}=\frac{1}{4}$,

IX. Determine the value of x.

X. Determine the value of y.

THIRD WORD

XI – XIV. $\overline{CU}\|\overline{MY}$



XI. If AC = 3, CM = 5, AU = 12, Determine UY.

XII. If AC = 2, AM = 5, UY = 9, Determine AU.

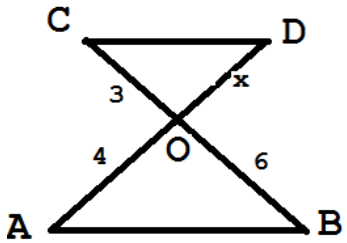
XIII. If CM = 7, AU = 15, UY = 35, Determine AC.

XIV. If MC = 10, AC = 8, AU = 4, Determine AY.

XV. Determine the ratio of x to y if $\frac{x}{2}=\frac{y}{5}$.

XVI. The perimeters of two similar polygons are 24 inches and 60 inches. If one side of the smaller polygon is 4 inches, what is the length of the corresponding side of the larger polygon?

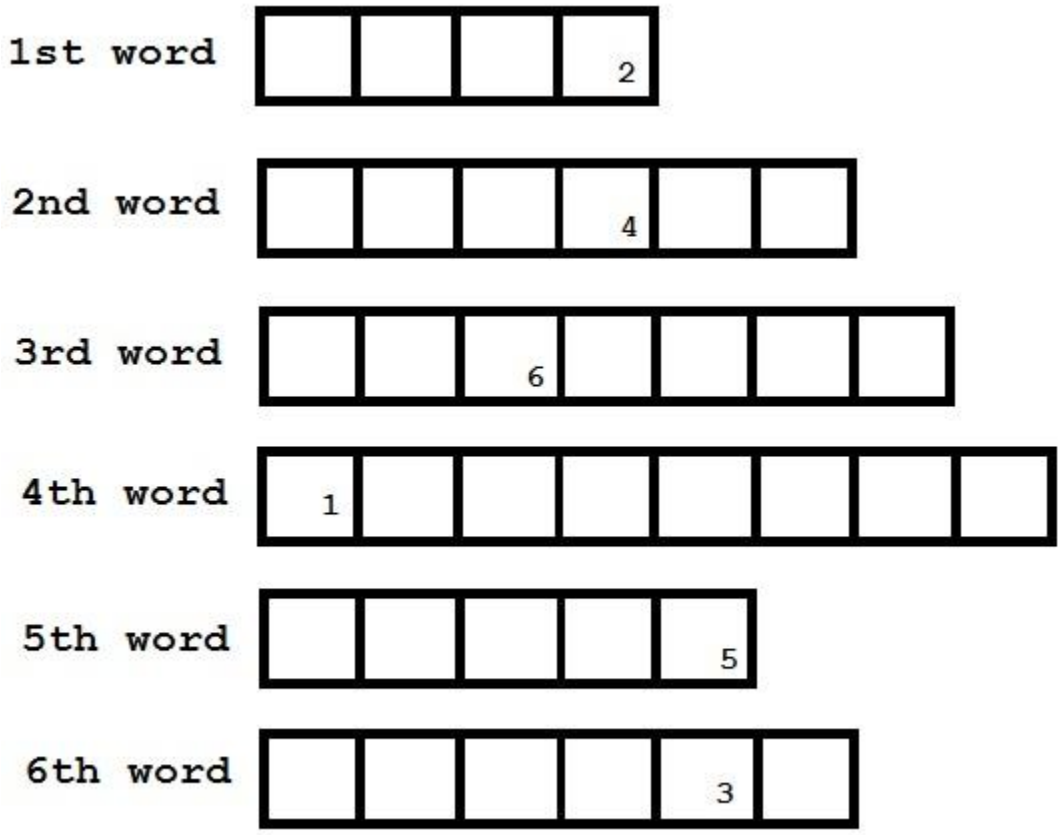
XVII. Given: $\triangle AOB \sim \triangle DOC$
Find x



FOURTH WORD
L I T R A V E C

FIFTH WORD
G E L A N

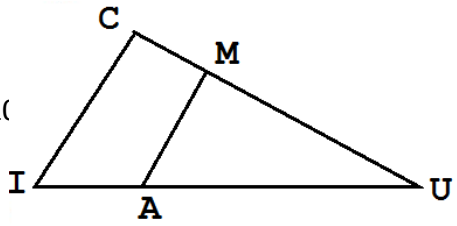
SIXTH WORD
Q U R S E A



Given: $\triangle ICU \sim \triangle AMU$

XVIII. If $CM = 3, MU = 7,$ and $AU = 1($

Then $IU = \underline{?}$



XIX.

If $\triangle AMY \sim \triangle STP$

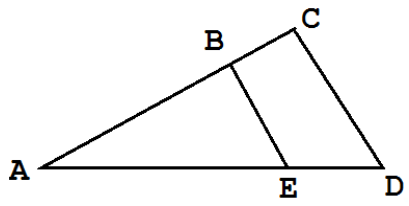
Then $\frac{AM}{\quad} = \frac{MY}{\quad} = \frac{\quad}{SP}$

XX. Express $x^2 = a\ b$ as a proportion.

XXI.

Given: $\overline{BE} \parallel \overline{CD}$

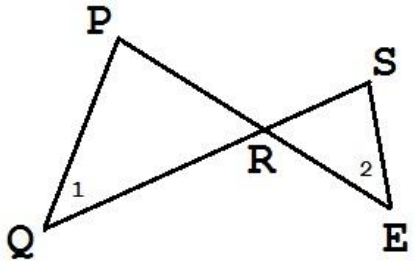
Prove: $\triangle ABE \sim \triangle ACD$



XXII.

Given: $\angle 1 \cong \angle 2$

Prove: $\frac{PR}{RS} = \frac{PQ}{SE}$



ANSWERS:

A. 6

C. $\frac{x-3}{x-1}$

C. 4

E. $\frac{2}{5}$

E. 12

E. 14

E. 15

G. 20

H. 10

I. $\frac{5}{4}$

L. $\frac{4}{5}$

N. 3

N. $\frac{2}{9}$

N. $\frac{x+3}{x+1}$

O. 2

R. $\frac{9}{2}$

T. 5

X. 9