

## Part 1:

*Directions:* Match the algebraic expressions with their mathematical counterparts to find the answer to the question below. When you find a match, write the appropriate letter (or number) in the blank beside each problem. Use your answers to decode the message.



What is the startling math fact about the letter "A"?

$\frac{15}{13}$   $\frac{11}{5}$   $\frac{5}{15}$   $\frac{2}{15}$   $\frac{5}{5}$   $\frac{6}{9}$   $\frac{1}{4}$   $\frac{4}{9}$   $\frac{14}{4}$   $\frac{14}{3}$

$\frac{13}{6}$   $\frac{5}{4}$   $\frac{15}{9}$   $\frac{15}{6}$   $\frac{5}{4}$   $\frac{2}{3}$  " "  $\frac{9}{9}$   $\frac{6}{4}$   $\frac{4}{9}$   $\frac{3}{4}$

$\frac{4}{8}$   $\frac{7}{2}$   $\frac{10}{14}$   $\frac{19}{10}$   $\frac{5}{8}$   $\frac{2}{2}$   $\frac{8}{16}$   $\frac{2}{15}$   $\frac{14}{14}$   $\frac{12}{12}$   $\frac{16}{16}$   $\frac{16}{16}$

- \_\_\_ 1. 6 more than a number
- \_\_\_ 2. 8 decreased by twice a number
- \_\_\_ 3. the difference of 7 and a number
- \_\_\_ 4. 1 less than 6 times a number
- \_\_\_ 5. twice a number diminished by 4
- \_\_\_ 6. 8 less than twice a number
- \_\_\_ 7. the product of 2 and a number increased by 4
- \_\_\_ 8. 2 less than four times a number
- \_\_\_ 9. the quotient of 3 and a number
- \_\_\_ 10. 3 less than the product of 4 and a number
- \_\_\_ 11. 3 less than the quotient of 4 and a number
- \_\_\_ 12. 4 divided by the difference of a number and 3
- \_\_\_ 13. 3 more than triple a number
- \_\_\_ 14. the quotient of 3 and a number, decreased by 5
- \_\_\_ 15. the quotient of 3, and a number decreased by 5
- \_\_\_ 16. 9 less than a number

### Answer Bank

- |                    |                       |
|--------------------|-----------------------|
| <b>A</b> $3/x$     | <b>P</b> $x - 5$      |
| <b>B</b> $10 + x$  | <b>R</b> $8 - 2x$     |
| <b>D</b> $9 - x$   | <b>S</b> $6 + x$      |
| <b>E</b> $2x - 4$  | <b>T</b> $3/(x - 5)$  |
| <b>F</b> $4x - 2$  | <b>U</b> $2(x + 4)$   |
| <b>H</b> $4/x - 3$ | <b>V</b> $1 - 6x$     |
| <b>I</b> $2x - 8$  | <b>W</b> $5 - x$      |
| <b>L</b> $3 + 3x$  | <b>Y</b> $7 - x$      |
| <b>M</b> $4x - 3$  | <b>Number Answers</b> |
| <b>N</b> $6x - 1$  | <b>1</b> $4/(x - 3)$  |
| <b>O</b> $3/x - 5$ | <b>0</b> $x - 9$      |

- \_\_\_ 17. 9 minus a number
- \_\_\_ 18. 5 decreased by a number
- \_\_\_ 19. 10 plus a number
- \_\_\_ 20. 1 minus 6 times a number

## What Are Dried Grapes Known For That Makes a Teacher Like Them?

Solve each problem and find your answer. Look for the letter of the correct answer in the string of letters near the bottom of the page and cross it out each time it appears. When you finish, write the remaining letters in the space at the bottom of the page.

- 1 The length of a rectangle is 4 times the width. The perimeter is 90 cm. Find the width and length.
- 2 The length of a rectangular poster is 7 in. greater than the width. The perimeter is 114 in. Find the width and length.
- 3 The length of a rectangle is 2 cm more than 5 times the width. The perimeter is 196 cm. Find the width and length.
- 4 The length of a rectangular field is 6 m less than twice the width. The perimeter is 312 m. Find the length of the field.
- 5 The perimeter of a triangle is 93 ft. Side  $a$  of the triangle is twice as long as side  $b$ . Side  $c$  is 3 ft longer than side  $a$ . Find the length of each side.
- 6 The first side of a triangle is 9 m shorter than the second side. The third side is 3 times as long as the first side. The perimeter is 39 m. Find the length of the longest side.
- 7 A triangular sail has a perimeter of 57 ft. Side  $a$  is 3 ft shorter than twice side  $b$ , and side  $c$  is 4 ft longer than side  $b$ . Find the length of each side.
- 8 The perimeter of this hexagon is 52 in. Each longer side measures 1 in. less than 4 times the length of a shorter side. Find the length of the side labeled  $x$ .

### answers

S 27 in., 34 in.

L 18 m

N 24 ft, 16 ft, 20 ft

C 9 cm, 36 cm

T 4.5 in.

H 44 ft, 22 ft, 25 ft

P 16 cm, 82 cm

F 36 ft, 18 ft, 39 ft

A 98 m

I 17 m

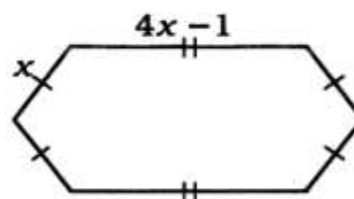
G 25 in., 32 in.

E 25 ft, 14 ft, 18 ft

R 3.6 in.

O 102 m

D 15 cm, 77 cm



G T R E A O F I C S T E I P N G H L O A T N E L D C S

answer to puzzle: