

1. Work out the answers to each of the questions below to find a not-so-secret

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

$g + o$	m^2		$a \div g$	$q - y$	$f + w$	$i - j$	dg

$r - g$	gk	$d + f$	$k - q$	$j^2 + g$	$b - f$	f^2		$e^2 - y$	$kp - m$

$m - u$	$lm - g$	$2g$	$f^2 - h$	$k^3 - k$	sy	hk^2	$!$

Message:

2. Complete the table using the three different set of values that need substituting.

3. Match up the original expressions with their simplified partners. One of the answers is missing. What should it be?

$$3a + 5a \qquad \qquad 9a$$

$$3a - 5a \qquad \qquad 5a$$

$$5a - 3a \qquad \qquad 3a$$

$$3a + 2a + 4a \qquad \qquad 2a$$

$$6a + 2a - 3a \qquad \qquad a$$

$$7a - 4a - 2a \qquad \qquad 8a$$

$$\frac{1}{2}a + \frac{5}{2}a$$

4. Make x the subject and join with the correct answer:

$$x + b = a$$

$$x = 1 - \frac{b}{a}$$

$$x - a = b$$

$$x = 2a - 8$$

$$2x + 4 = a$$

$$x = 2a + b$$

$$ax + b = a$$

$$x = 2a - 4$$

$$\frac{x + 4}{2} = a$$

$$x = \frac{a}{2} - 2$$

$$\frac{x}{2} + 4 = a$$

$$x = \frac{c}{a-b}$$

$$2(x + a) = b$$

$$x = \frac{c}{a+b}$$

$$\frac{x - b}{2} = a$$

$$x = \frac{b}{2} - a$$

$$ax + bx = c$$

$$x = a - b$$

$$ax - bx = c$$

$$x = \frac{c}{a-1}$$

$$ax = x + c$$

$$x = b + a$$

5. Solve the following problems:

a. The sum of two numbers is 50 and their difference is 22. Find the numbers.

The numbers are and

b. 3 tables and 2 chairs cost \$1900 and 2 tables and 4 chairs cost \$1800. Find the cost of table and a chair.

Answer: \$

6. Solve the following simultaneous equations

a. $3a + 4b = 43$

$-2a + 3b = 11$ Answer: $a =$ $b =$

b. $4x - 3y = 23$

$3x + 4y = 11$ Answer: $x =$ $y =$

c. $3x + 2y = 8$

$4x + y = 9$ Answer: $x =$ $y =$

d. $x - y = -1$

$2y + 3x = 12$ Answer: $x =$ $y =$

