

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

$g + a$	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		$e^2 - y$	$kp - m$

$m - u$	$lm - g$	$2g$	$f^2 - h$	$k^3 - k$	\sqrt{y}	hk^2	$!$

Message:

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

$3a + 5a$

$9a$

$3a - 5a$

$5a$

$5a - 3a$

$3a$

$3a + 2a + 4a$

$2a$

$6a + 2a - 3a$

a

$7a - 4a - 2a$

$8a$

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

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: $x =$, $y =$

