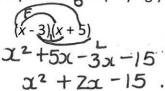
Expanding brackets and simultaneous equations

(2005-1).

First Outle, Inner Last

17 Expand the following expression simplifying your answer as far as possible.



Solve the following simultaneous equations by an algebraic (not graphical) method. Show all your working.

$$3x + 2y = 8$$
 1)
 $4x + 5y = 13$ 2)
 $12x + 6y = 32$ 1)x 4
 $12x + 15y = 39$ 2) x 3
 $7y = 7$
 $y = 1$

Sub into ()
$$(2x)$$

 $3x + 2 = 8$
 $3x = 6$
 $x = 2$

(2006-1)

2 Simplify
$$7(a+3b)+a-9b$$
 [3]
= $7a+21b+9-9b$
= $8a+12b$

17 Expand the following expression, simplifying your answer as far as possible.

$$(x+5)(x-3)$$
 [2]
 $x^2 + 5x - 3x - 15$
 $x^2 + 2x - 15$

18 Solve the following simultaneous equations by an algebraic (not graphical) method. Show all your working.

2 Simplify
$$5(x-2y) + 5x - 5y$$

2 Simplify
$$5(x-2y)+5x-5y$$

 $5x-10y+5x-5y$
 $10x-15y$

13 Solve the equation
$$7(x-5)-5(x-4)=0$$
 $7\alpha-35-5\alpha+20$

15 Solve the following simultaneous equations by an algebraic (not graphical) method. Show all your working.

$$4x + 3y = 12$$
 1)
 $6x + 2y = 33$ 2
 $12x + 9y = 36$ 1) X 3
 $12x + 9y = 66$ 2) X 2
 $5y = -30$
 $4y = -6$

(2007-2)

13 a) Simplify
$$3(5n+1)+2(3n-2)$$

b) Expand
$$x(x^2 + 3)$$

$$x^3 + 3x$$

c) Solve
$$\frac{t}{5} + 4 = 9$$

$$\frac{t}{5} = 9 - 4$$
 $\frac{t}{5} = 5$
 $t = 5 \times 5$
 $t = 25$

(2008-2)

12 Solve the following simultaneous equations by an algebraic (not graphical) method.

Show all your working.

$$3x-2y=23$$
 ①
$$5x+3y=32$$
 ②
$$15x-10y=115① x5$$

$$15x+9y=96② x3$$

$$-14y=19$$

$$y=-1$$

Sub into () (-1x-2) 3x + 2 = 23 [4] 3x = 212 = 7

(2009-2)

7 a) Expand $x(x^2 + 4)$

[1]

b) Simplify
$$5(2n-1)+2(9-3n)$$

$$10n-5+18-6n$$

 $4n+13$

[2]

- c) Solve each of the following equations
- i) 5e 9 = 3(e + 5)

$$5e-9 = 3e+15$$

 $5e-3e = 15+9$
 $2e = 24$

[5]

ii)
$$\frac{d}{3} - 4 = 3$$

$$\frac{d}{3} = 3 + 4$$

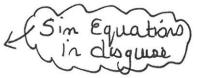
$$\frac{d}{3} = 7$$

(2010-1)

Sara calculates that five times her age and four times her brother's age gives a total of 100. The sum of Sara's age and her brother's age is 22.

Find Sara's age and her brother's age.

52+44=100 D 2+4=22 D 52+44=100 D



(2010-2)

3 c) Expand b(3b-2)

Sarer is 12 Her bother is

[2]