

Surname	
Other Names	
Candidate's Signature	

## GCSE 9 - 1 Questions

### Simplifying Expressions

**Calculator Not Allowed**

#### INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.
- Write your answers in the spaces provided in this question paper.
- Answer ALL questions.
- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

**Total Marks :**

1) Simplify  $10 - 3a + 2 - 5a$

Answer \_\_\_\_\_ [2]

2) Simplify  $8x - 3 - 2x + 5$

Answer \_\_\_\_\_ [2]

3) (a) Simplify  $4x - 3y + 5y - x$

Answer \_\_\_\_\_ [2]

(b) Simplify  $3w + 7z + 6w - z$

Answer \_\_\_\_\_ [2]

(c) Write an expression for the cost of  $g$  pens at 45 pence each.

Answer \_\_\_\_\_ pence [1]

4) Simplify  $3x + 5y + 2x - 3y$

Answer \_\_\_\_\_ [2]

- 5) (a) Write down an expression in terms of  $d$  and  $c$  for the **total** number of legs of  $d$  dogs and  $c$  chickens.

Answer \_\_\_\_\_ [2]

(b) Simplify  $5g - 3h - 3g + 8h$

Answer \_\_\_\_\_ [2]

6) Simplify  $3c + 5d + c - 2c$

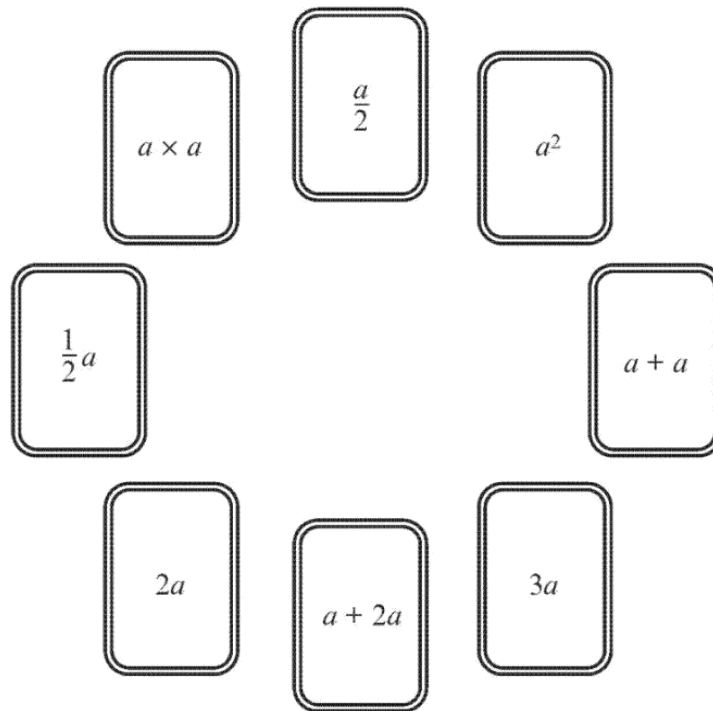
Answer \_\_\_\_\_ [2]

7) Simplify  $7x + 5y - 3x - 2y$ .

[2]

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8) Sammy and Jack play snap with these algebra cards.

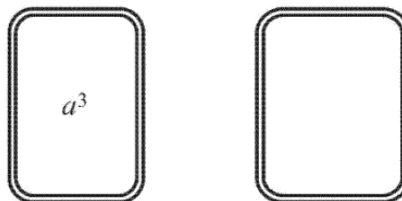


(a) Draw lines to connect the pairs of cards that are equivalent.

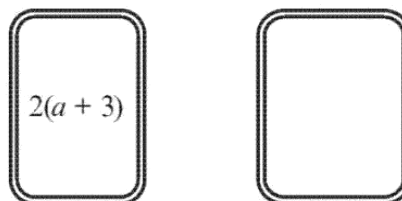
[4]

(b) For each of the following cards, write another equivalent card.

(i)



(ii)



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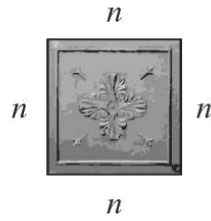
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[2]

9)

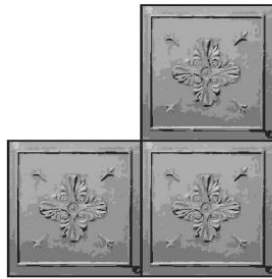
(a) A square tile has edges of length  $n$  centimetres.



(i) Write an expression for the perimeter of the square tile. [1]

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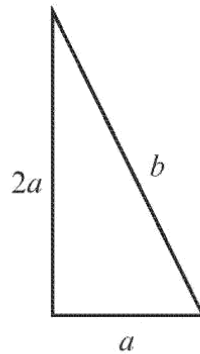
(ii) Three of the square tiles are put together to make the following **shape**.



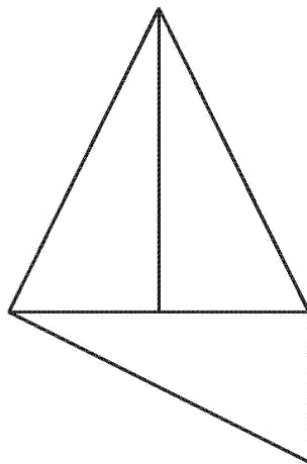
Write an expression for the perimeter of this shape. Simplify your expression fully. [2]

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- (b) A right-angled triangular piece of plastic has edges of length  $a$ ,  $b$  and  $2a$  centimetres, as shown in the diagram.



Three of these right-angled triangular pieces of plastic are put together to create another shape, as shown below.



Write an expression for the perimeter of this shape.  
Simplify your expression fully.

[2]

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