

# Topic Test 4 (20 minutes)

## Basic algebra - Foundation

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1 Work out the value of  $3 + 4^2 - 20 \div 5$

[2 marks]

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Answer \_\_\_\_\_

2 Insert brackets in the following to make it correct

[1 mark]

$$3 \times 4 + 2 \div 8 - 2 = 3$$

3 George says that  $4 + a + a + a + b + b = 24ab$

Describe the mistakes George has made.

Give the correct answer.

[2 marks]

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Answer \_\_\_\_\_

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- 4** On Monday David travels  $m$  miles.  
On Tuesday he travels 35 miles more than he did on Monday.  
On Wednesday he travels a total of twice the distance he travelled on Monday.  
Work out an expression for the total distance he travels during the three days.

**[3 marks]**

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Answer \_\_\_\_\_ miles

- 5** Multiply out  $7(3a + 8)$

**[2 marks]**

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Answer \_\_\_\_\_

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**6** Expand and simplify

**6 (a)**  $4(5h + 7) + 2(5h - 7)$

**[3 marks]**

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Answer \_\_\_\_\_

**6 (b)**  $9(3k + 1) - 5(2k - 4)$

**[3 marks]**

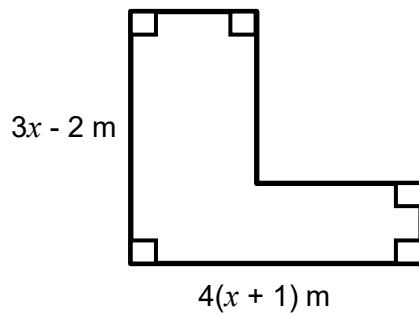
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Answer \_\_\_\_\_

7 A house has an open plan kitchen and lounge as shown.



Not drawn accurately

Work out an expression for the total perimeter of the shape.

[4 marks]

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Answer \_\_\_\_\_ m

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**8** Factorise fully each of the following expressions

**(a)**  $10x + 15$

**[1 mark]**

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Answer \_\_\_\_\_

**(b)**  $36x - 48$

**[1 mark]**

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Answer \_\_\_\_\_

**(c)**  $27x + 45x^5$

**[2 marks]**

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Answer \_\_\_\_\_

**(d)**  $44x^3y^2 - 33xy^4$

**[2 marks]**

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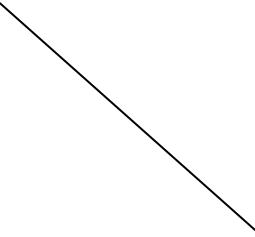
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Answer \_\_\_\_\_

- 9 Match each of the following by drawing a line.  
The first one has been done for you.

[2 marks]

$2n + 5 > 18$	Equation
$6(n - 5) = 42$	Expression
$w = 7h + 30$	Inequality
$5(n - 6)$	Formula
$4(n + 7) \equiv 4n + 28$	Identity



- 10 Write down all the integers,  $n$ , that satisfy the inequality

[2 marks]

$$-3 < n \leq 1$$

Answer \_\_\_\_\_

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11 Sanjit wants to pick some strawberries.

He pays £3 for a box.

He then pays £1.20 per kg of strawberries.

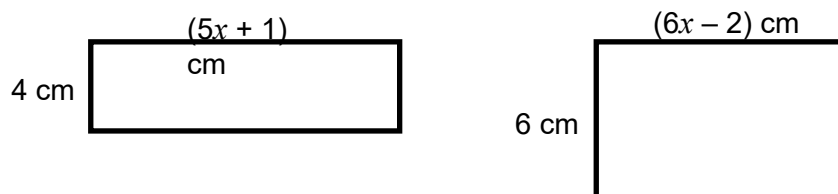
Write down a formula to work out the total cost,  $C$ , of picking  $s$  kg of strawberries.

[1 mark]

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Answer \_\_\_\_\_

12 These two rectangles have the same area.



Write down an equation to show this.

[1 mark]

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Answer \_\_\_\_\_

**END OF QUESTIONS**