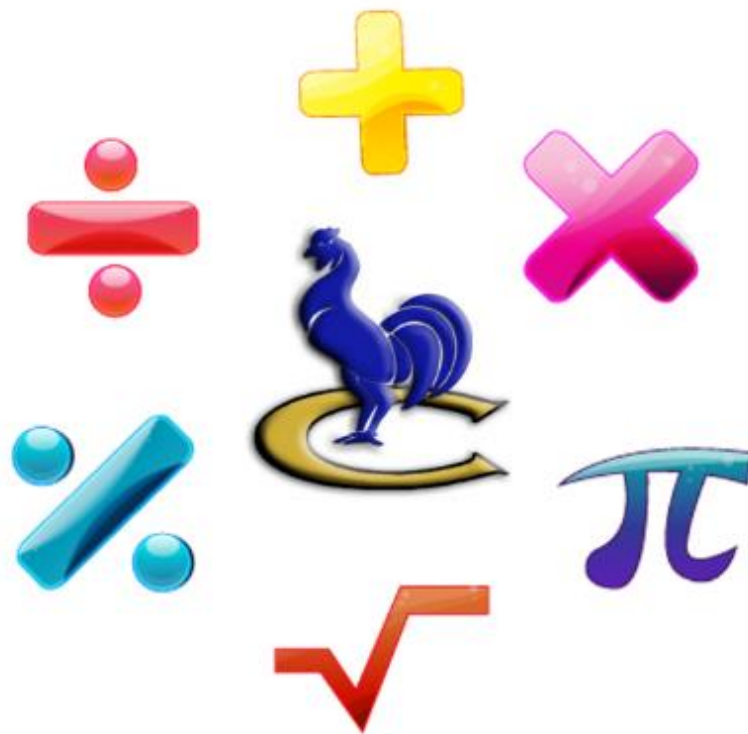Key Stage 4

Foundation

Algebra Revision

Name:

Teacher:

Solve these equations.

(i) $7x = 56$ [1]

....

....

....

(ii) $23 - x = 9$ [1]

....

....

(i) Sian has n boxes.
Each box contains 8 pens.
How many pens does Sian have altogether? [1]

....

Number of pens is ....

(ii) Meic had m CDs.
He gave 3 CDs to a friend.
How many CDs does Meic have now? [1]

....

Number of CDs is ....

(a) Calculate the value of $3x + 4y$ when $x = -6$ and $y = 5$. [2]

....

....

....

(b) Simplify the expression $9g - 4f - 3g - 5f$. [2]

....

....

(c) Expand $4(3x - 5)$. [1]

....

....

(a) Simplify $8p - 12p + 9p$. [1]

....

....

(b) Solve the following equations.

   (i) $6x = 48$ [1]

....

....

   (ii) $32 - y = 17$ [1]

....

....

(a) Solve the following equations.

   (i) $\frac{x}{7} = 21$ [1]

....

....

   (ii) $13f + 2 = 6f + 5$. [3]

....

....

(a) Solve these equations.

   (i) $7x = 56$ [1]

....

....

....

   (ii) $y + 19 = 83$ [1]

....

....

(b) Simplify the expression $12k - 15k + 7k$. [1]

....

Find the value of $2x + 7y$ when $x = -3$ and $y = 10$.   [2]

....

....

Solve the following equations.

(a) $20x = 120$ [1]

....

....

....

(b) $40 - y = 25$ [1]

....

....

....

(i)   Adam has x marbles. His friend gives him 3 more.
Write down, in terms of x, the total number of marbles Adam now has.   [1]

....

(ii)   Petrol costs £g per litre.
Write down, in terms of g, the cost of 15 litres of petrol.   [1]

....

Find the value of $8x + 3y$, when $x = 3$ and $y = -2$.   [2]

....

....

....

Circle the correct answer for the following statement. [1]

$5a + 4a - a$ can be simplified as

9 $\qquad$ $5a + 4$ $\qquad$ $8a$ $\qquad$ 8 $\qquad$ $9a$

Solve the equation $3x - 2 = 10$. [2]

Expand $2(x + 3)$. [1]

(a) Simplify the expression $9g - 5g + 12g$. [1]

(b) Solve the equation $5y = 45$. [1]

(c) Solve the equation $w - 16 = 14$. [1]

(d) Solve the equation $4x + 7 = 10$. [2]

(a) Find the value of $5f + 7g$ when $f = 3{\cdot}8$ and $g = -2{\cdot}6$. [2]

(b) Solve the following equation.
Give your answer correct to 1 decimal place. [3]

$$7x - 4 = 12$$

Use the formula $x = 4a + 3b$ to find the value of x when $a = 7{\cdot}2$ and $b = -4{\cdot}6$. [2]

Solve $5(2x + 3) = 20$. [3]

120°

4x°
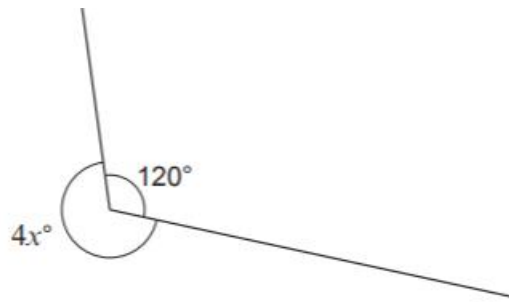
Diagram not drawn to scale

Calculate the value of x. [3]

....

....

....

....

....

....

$x =$ ....
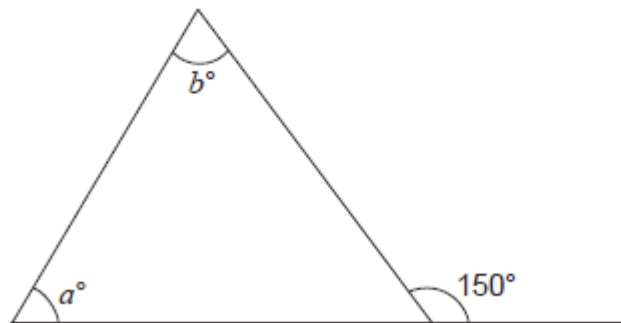
$b°$

$a°$

150°

Diagram not drawn to scale

Which of the following equations is correct for the diagram shown above?
Circle your answer. [1]

$a + b = 30$ $a + b = 210$ $b - a = 150$

$a - b = 150$ $a + b = 150$

n is an integer.

Tick the correct statement below.
You must give an explanation for your decision. [1]

| 5n – 3 is always an even number. | 5n – 3 is always an odd number. | 5n – 3 can be an even number or an odd number. |

Explanation: ....

....

....

ABCD is a quadrilateral.
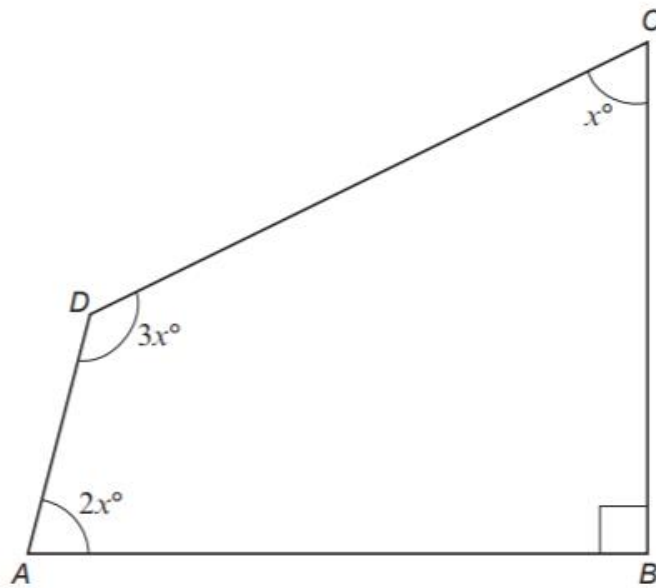
Diagram not drawn to scale

(a) Calculate the value of x. [4]

....

Find the size of angle x.   [2]
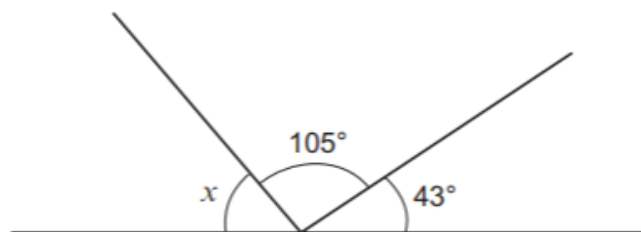
Diagram not drawn to scale

....

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$x =$ .... °

Solve the equation $13y - 5 = 9y + 27$.   [3]

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....

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....

....

(a) Solve the following equation. [3]

$$4(3x + 2) = 12$$

....

....

....

....

....

....

(b) Write down an expression for the **total** cost of 3 bananas at x pence each, and 5 apples at $2x$ pence each.
Simplify your answer. [3]

....

....

(a) Write down the first three terms of the sequence whose nth term is given by $2n - 5$. [2]

....

....

....

....

The first three terms are .... , ... and ....

(b) Write down an expression for the nth term of the following sequence. [2]

7,   11,   15,   19,   ...

....

....

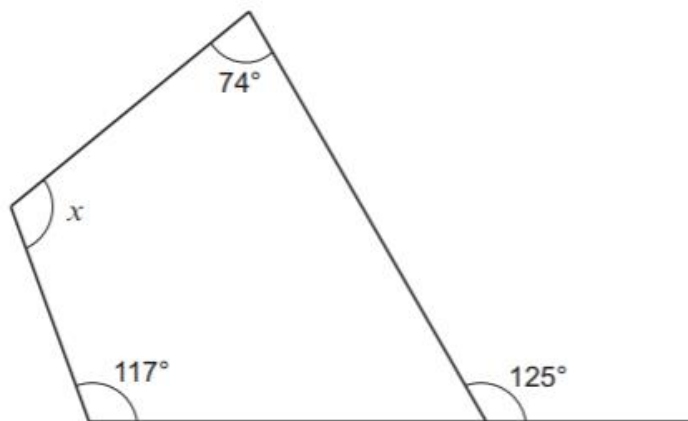...

Diagram not drawn to scale

Find the size of the angle x. [3]

....

....

....

....

....

$x =$ .... °