GCSE Maths homework sheet (higher)   Week 9

Remember that you should do the foundation homework sheet as well.

Diagrams and images on this sheet **are *not* accurately drawn**

1. The diagram on the right shows a triangle.

  a. Factorise $9k + 9$ . . . . **(1)**

The lengths of the three sides are:

$9k + 9$, $12k + 12$ and $15k + 15$.

All measurements are in metres.

  b. Find an expression, in terms of k, for the perimeter of the triangle. Give your answer in its simplest form.
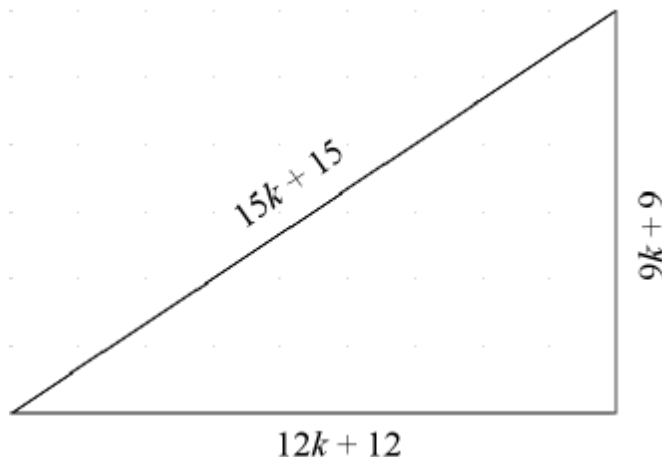
           . . . . **(2)**

  c. The perimeter of the triangle is 108 m. Find the value of k.

        $k =$ . . . . **(1)**

  d. Find the length of the shortest side of the triangle.

           . . . . **(4)**

The triangle has sides labelled $15k + 15$, $12k + 12$, and $9k + 9$.

2. The diagram on the right shows a small rectangle set within a larger one. All dimensions are given in feet.

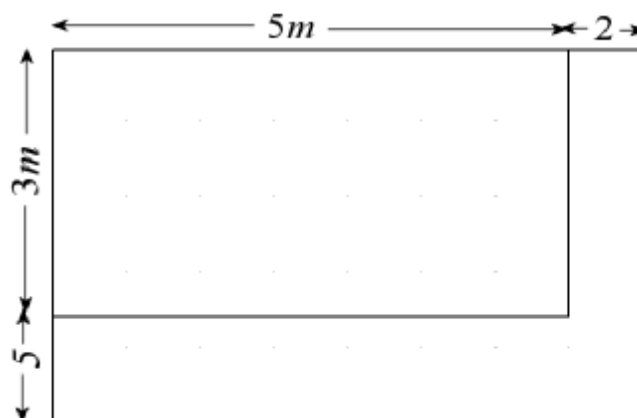 **a.** Write down, in terms of m, an expression for the longer side of the larger rectangle.

           . . . . **(1)**

  b. Write down an expression, in terms of m and in its simplest form, for the perimeter of the larger rectangle.

           . . . . **(2)**

  c. The perimeter of the rectangle is 38 feet. Find the value of m.

           . . . . **(2)**

The larger rectangle has top dimensions $5m$ and 2, left side dimensions $3m$ and 5.

3. Fully factorise the expression $6xy - 2x^2$

           . . . . **(2)**

Divide your marks by 15, then multiply by 100, to get a percentage. Write the percentage here: . . . . %