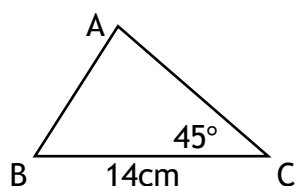


22. A box of cereal is on offer with an extra 25% added. The box on offer has 800g of cereal.  
Work out the weight of the regular box of cereal.

23. The area of the triangle below is 42 square cm.  
Work out the length of AC



- 24a. State the coordinates of the turning point of the function  $f(x) = (x + 3)^2 - 4$  and the equation of its axis of symmetry.
- 24b. Make a neat sketch of  $y = f(x)$ , stating clearly on your sketch the coordinates of the point where it crosses the  $y$  – axis.
25. Caitlin recorded her train waiting times on her way to work and on her way home.  
On her way to work, she noted these waiting times (in minutes)

18      21      16      25      15

- a) Calculate the mean and standard deviation of Caitlin’s waiting times
- b) On her way home, Caitlin’s mean waiting time was 23 minutes and her standard deviation was 2.63.

Make 2 valid comments about her waiting times.

26. State the nature of the roots of each of these equations:

a)  $2x^2 - 5x + 4 = 0$       b)  $4x^2 - 12x + 9 = 0$       c)  $3x^2 + x - 4 = 0$

27. Find the gradient and  $y$  –intercept of the line with equation  $3x - 4y - 20 = 0$

28. A function has equation  $f(x) = 3x - 11$ . If  $f(a) = 16$ , find the value of  $a$ .