22. A function has equation $f(x) = x^2 + 4x - 12$

a) Find the roots of the function
b) Find the coordinates of the turning point
c) State the equation of its axis of symmetry
d) Make a neat sketch of the graph of $y = f(x)$

23. A cylinder has a radius of 14cm.
    If 8500ml of liquid is poured into it, to what height will the liquid rise?

24. A new spinning toy is to be designed using the measurements shown.
    The body and head are made from congruent parts of a circle with radius 9cm and the width of the join, represented by AB, is 12cm.
    Calculate the height, h, of the toy.
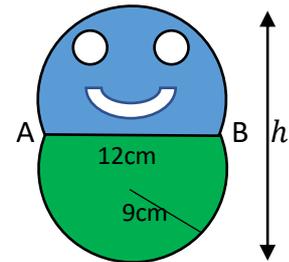
25. Evaluate $1\frac{7}{3} - 1\frac{2}{9} \div \frac{5}{12}$

26a. House prices are expected to rise at a rate of 6.3% per year for the next 5 years.
    If the average house price in a new estate if £121 000, what will it be expected to cost in 5 years?

26b. After this period, prices are due to fall by 9.4% per year over the next 3 years.
    Will the house prices have fallen below their original value after 3 years?
    Show all your working.

27. Solve the equation $3x^2 - 10x - 8 = 0$

28. The diagram below shows the walkways either side of a canal. A triangle can be constructed as shown relative to the positions of Tom, Emily and Cheryl.
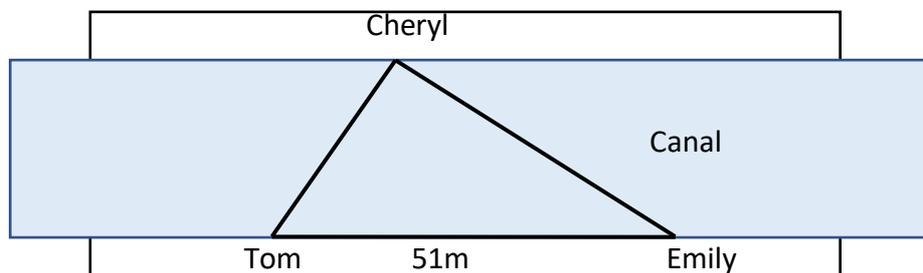
Tom and Emily are 51 metres apart.
Tom is facing Emily and needs to turn 75° anticlockwise to face Cheryl.
Emily is facing Cheryl and needs to turn 39° anticlockwise to face Tom.

Calculate the width of the canal.