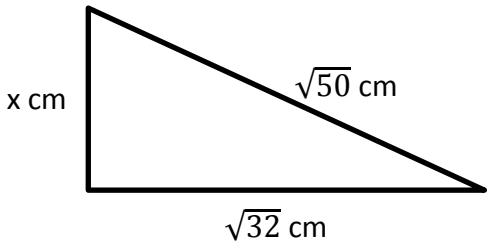
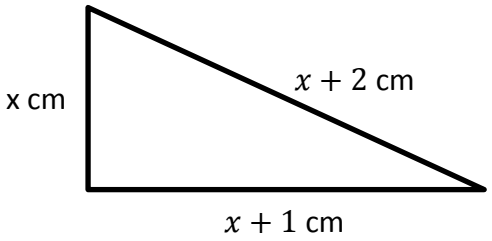
Homework Due Wednesday 25th October 2017

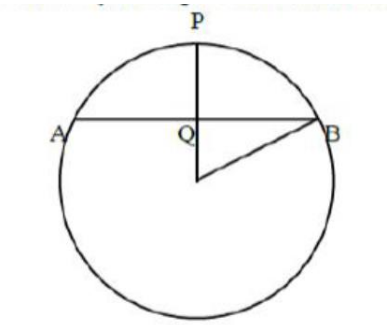
1.a) A right angled triangle has dimensions as shown.
Find the length of x, leaving your answer in SURD form.





b) A right angled triangle has dimensions as shown.
Find the value of x.

2) AB has length 12cm. PQ has length 5cm.
Calculate the radius of the circle.

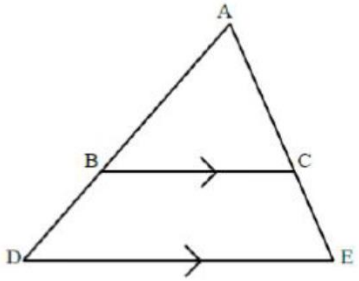


3.a) Express $\boldsymbol{x^2 - 4x + 11}$ in the form $\boldsymbol{(x - p)^2 + q}$
b) Hence, state the coordinates of the minimum turning point of the function $f(x) = \boldsymbol{x^2 - 4x + 11}$.
c) Make a neat sketch of the function $f(x) = \boldsymbol{x^2 - 4x + 11}$

4. Factorise and then simplify:

$$\frac{x^2 + 4x - 5}{x^2 + x - 2}$$

5. Solve to following to one decimal place:
a) $2x^2 + 3x - 1 = 0$ **b)** $x^2 - x - 1 = 0$



6. In the triangle shown, BC = 8cm, DE = 12cm and AB = 9cm.
a) Find the length of BD.
b) Triangle ABC has area $44cm^2$. Find the area of triangle ADE.