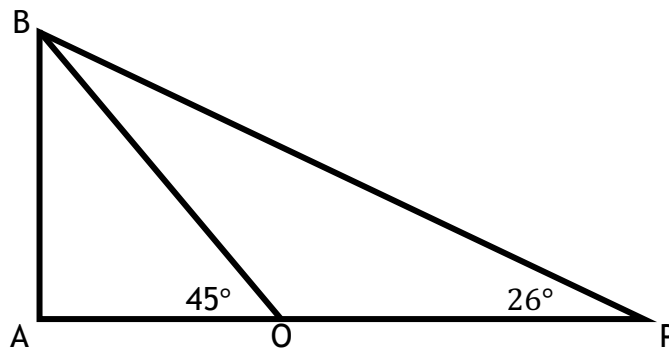15a. A function has equation $f(x) = 4x - 3x^2$. Evaluate $f(-3)$.

  b. If $f(a) = 15$, and $a > 0$, find the value of a.

16. Show clearly that $3x^2 - 4x + 3 = 0$ has no real roots.

17.   A balloon, **B,** containing medical supplies, is vertically above a point **A.**
      An observer at a point **O,** notices the angle of elevation is 45°
      At the same time, another observer at the point **P**, notes the angle of
      elevation is 26°

      Calculate BX, the height of the balloon above the ground.

18a.   Express $x^2 - 6x + 11$ in the form $(x - a)^2 + b$

18b. Write down the coordinates of the turning point and its equation of the axis of
      symmetry.

19. Solve the quadratic equation $3x^2 - 7x + 3 = 0$. Give your answers correct to
     one decimal place.

20. Last year, Amanda bought a necklace for £77. This is 12% cheaper than the
     price this year.
     Work out the price of the necklace this year.

21. Six crates were weighted, in kg, and recorded below.

             32   28   28   34   33   31

     Calculate the mean and standard deviation of these weights.