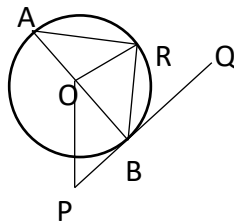1. In the diagram below:
   - AB is a diameter of the circle
   - PQ is a tangent
   - R is on the circumference of the circle.

   If angle OAR is 30°, calculate the size of angle RBQ.

2. State the number and nature of the roots of the equation $2x^2 - 3x - 1 = 0$

3. Express the following in the form $(x - a)^2 + b$:
   a) $x^2 + 4x + 8$ b) $x^2 - 10x - 3$ c) $x^2 - 6x + 11$ d) $x^2 + 8x - 6$

4. A function has equation $f(x) = 5x - 9$. If $f(t) = 16$, find the value of t.

5. A runner needs to increase her monthly mileage by 8% for training. This month, her total mileage was 151 miles.
   Work out her mileage for last month. Round your answer to the nearest mile.

6. Evaluate
$$1\frac{3}{5} \div (2\frac{1}{3} - \frac{5}{9})$$

7. The volume of a cone is 389cm³. The height of the cone is 13cm.
   Calculate the diameter of the cone.

$$[\text{Volume of cone} = \frac{1}{3}\pi r^2 h]$$