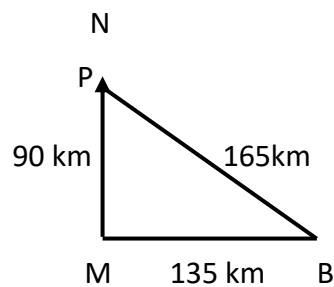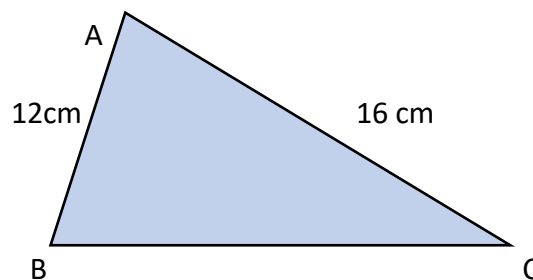**Round all answers to an appropriate degree of accuracy unless specifically stated**
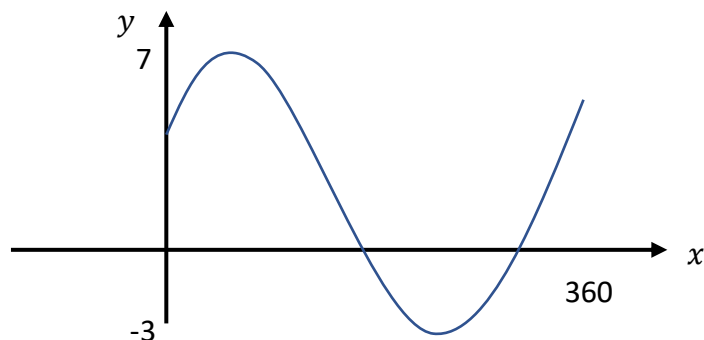
1.  A cup of coffee is served to 83°C. It cools at a rate of 7.5% per minute.

    Calculate its temperature after 8 minutes.

2.  Portland is due North of Maryland at a distance of 90 km.

    Buckton is 165km from Portland and 135km from Maryland.

    Is Buckton due east of Maryland? Show all your working.

    N

    P

    90 km    165km

    M    135 km    B

3.  If Sin A = $\frac{7}{8}$, calculate the area of triangle ABC shown below.

    A

    12cm    16 cm

    B    C

4.  Solve

    $$4\text{Tan}x + 3 = 0. \quad 0 < x < 360°$$

5.  The graph below has equation $y = a\text{Sin } x + b$
    State the values of $a$ and $b$.

    y

    7

    360

    x

    -3

6.  Express as a single fraction in its simplest form.

    $$\frac{3}{2x} - \frac{3}{5x^2}$$