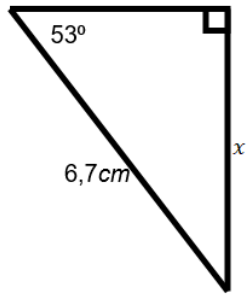
Grade 10 Trig Worksheet

Round all answers off to one decimal place.

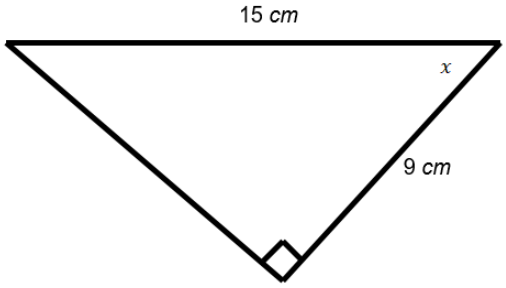
Question 1

Determine x in each of the following:

a)

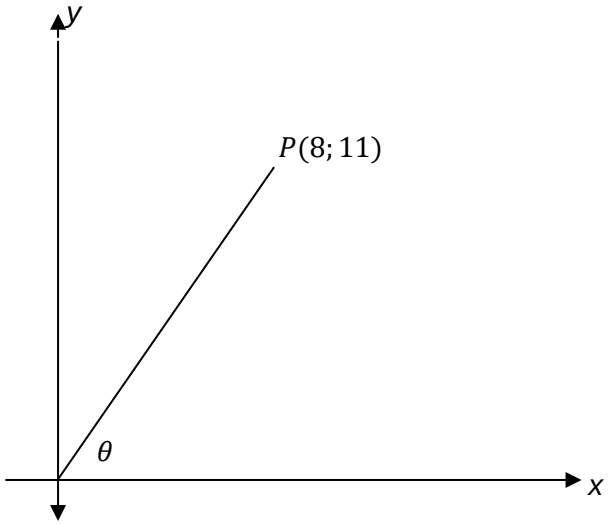


b)



Question 2

Given: point *P*(8;11). No calculator may be used.



Determine:

(a) OP, where O is the origin.

(b) sin θ

(c) tan θ

(d) $sin^2\,\theta + cos^2\,\theta$

Question 3

If $5\ tan\ \theta\ =\ 12$ en $sin\ \theta < 0$, determine with the aid of a diagram:

a) $13\ sin\ \theta - \frac{1}{5}\ cos\ \theta$

b) $sin^2\ \theta + cos^2\ \theta$

Question 4

Simplify without a calculator:

$2\ sin\ 30° + 3\ tan\ 45° - cos\ 180° - \frac{1}{cos60°}$

Question 5

Solve for θ in each of the following:

a) $cos\ \theta = 0{,}717$

b) $sin\ \theta = -0{,}5$

c) $tan\ 2\ \theta = 4$

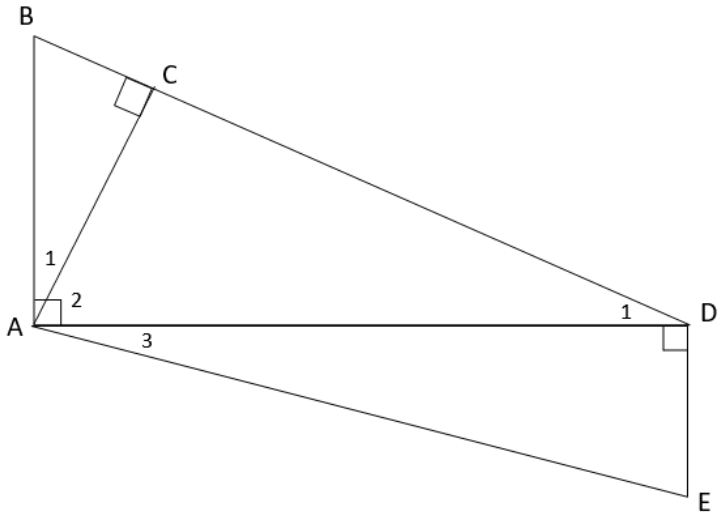
d) $2\ tan\ \theta + 1 = -0{,}978$

e) $cos(2\theta - 10°) = 0{,}5$

Question 6

BC = 9 mm ; $\hat{A}_1 = 27°$; $\hat{A}_3 = 25°$.

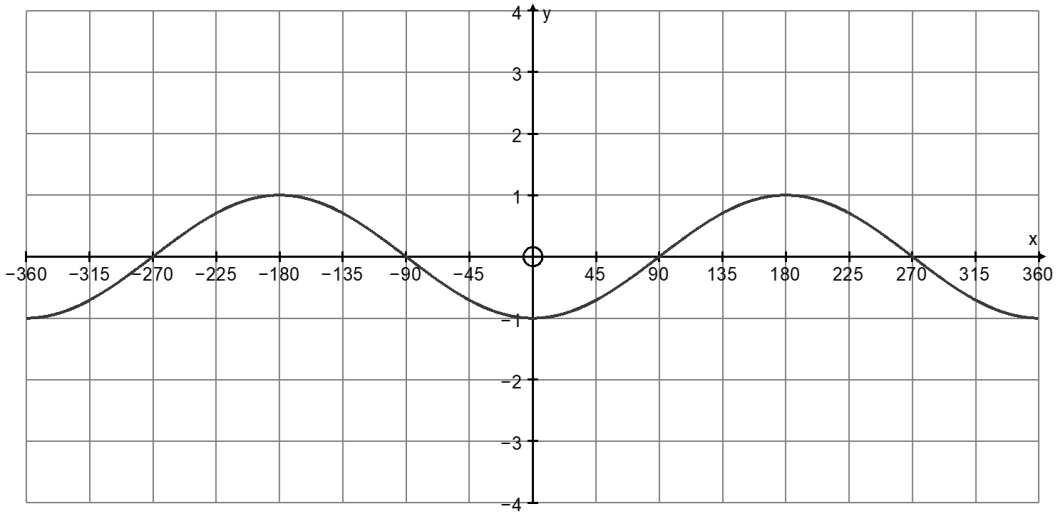
Determine the length of DE (round off to 1 decimal place). Show all your working.



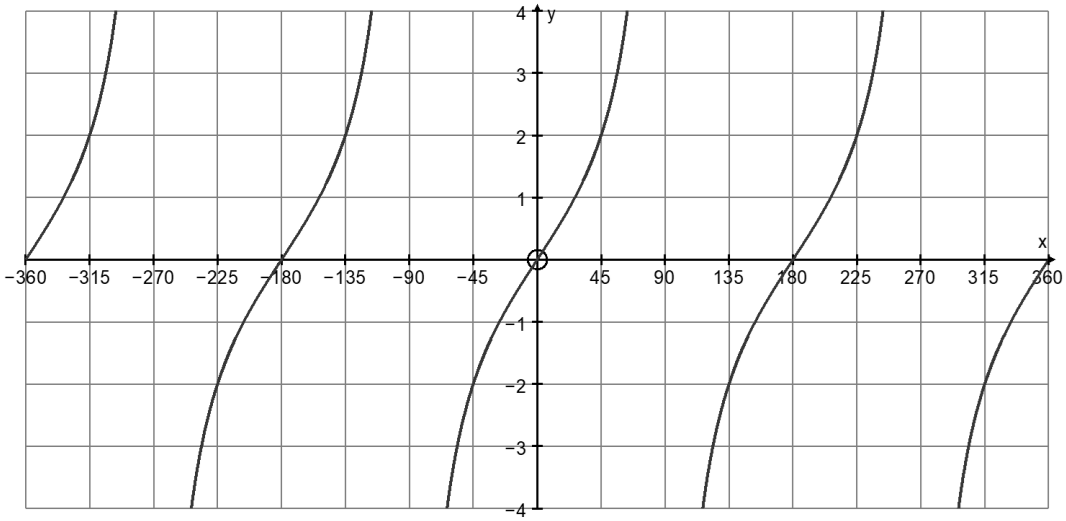
Question 7

Determine the equation of the following graphs :

(a)

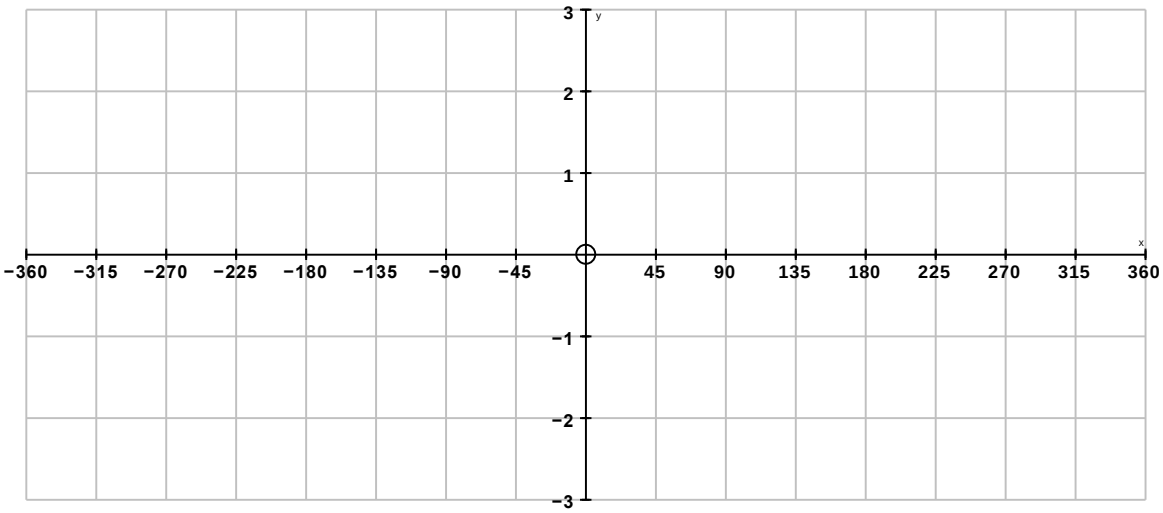


(b)



Question 8

a) Draw the graph of $f(x) = 2sin\,x$ for $x \in [0° ; 360°]$, by plotting points $90°$ apart on the x-axis. Clearly indicate all turning points and intercepts.
Use the diagram sheet that is provided to complete this question.



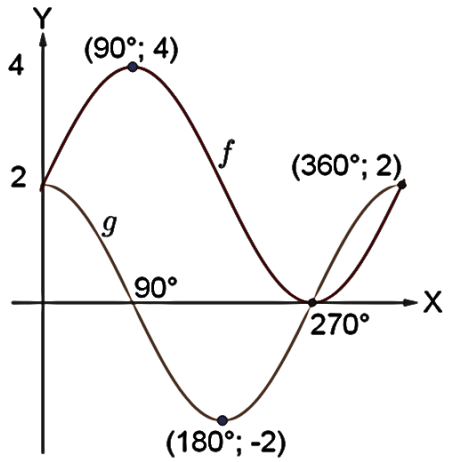
b) Use your graph to answer the following:

i) For which values of x is $f(x) > 0$?

ii) What is the amplitude of this graph, $y = 2sin\,x$?

Question 9

The graph of $f(x) = asinx + q$ and $g(x) = bcosx + p$ in the interval $[0°; 360°]$ is shown below:



a) Determine the values of a, b, q and p.

b) Determine the coordinates where $f(x) = g(x)$ by reading the value from the graph.

c) What is the amplitude of $f(x)$?