LDDR Niveau 1: TE 4 - Trigonometrie

1MG Level 1 **TRIGONOMETRY** TEST
2017-03-17 90mn Name: __

Indicate your computations

EXERCISE 1 [/6]

Give all the angles in $[0°; 360°]$ that satisfy

1) $\sin(x) = -0.2$
2) $\tan(x + 80°) = -3$
3) $\cos(3x) = 0.5$

EXERCISE 2 [/~~10~~]

Give all the answers of the following equations

1) $\sin(20° - 3x) = 0.2$ (in degrees)
2) $\sin(3x) - 5\cos(3x) = 0$ (in radians)
3) $5\cos^2(x) + 6\sin(x) + 3 = 0$

EXERCISE 3 [/6]

1) A point P_α in Q_{II} is such that $\tan(\alpha) = -7$. Without determining α, compute the exact value of $\sin(\alpha)$. Represent the situation.

2) A point P_β in Q_{III} is such that $\sin(\beta) = -\frac{2}{5}$. Without determining β, compute the exact value of $\cos(\beta)$. Represent the situation.

EXERCISE 4 [/6]

A cable is stretched between Brighton and Le Havre, under the water.
The distance between these towns is 145km, following a meridian.

We assume that the radius of the earth is 6378km

Determine: a) the length of the cable (in km with 3 digits)
b) the maximal depth of that cable under the water (meters)

Start by illustrating the situation.

EXERCISE 5 [/6]

A cylindrical tower with radius $r = 10m$ is observed from a point P placed at $20m$ from the centre of the tower. Determine what part of its perimeter can be seen from P.
Start by illustrating the situation.

EXERCISE 6 [/5]

Here is the graph of part of a trigonometric function. Which one? Answer : $f(x) =$

Write the values of one tick on each axis and continue the drawing on the whole x-axis given.