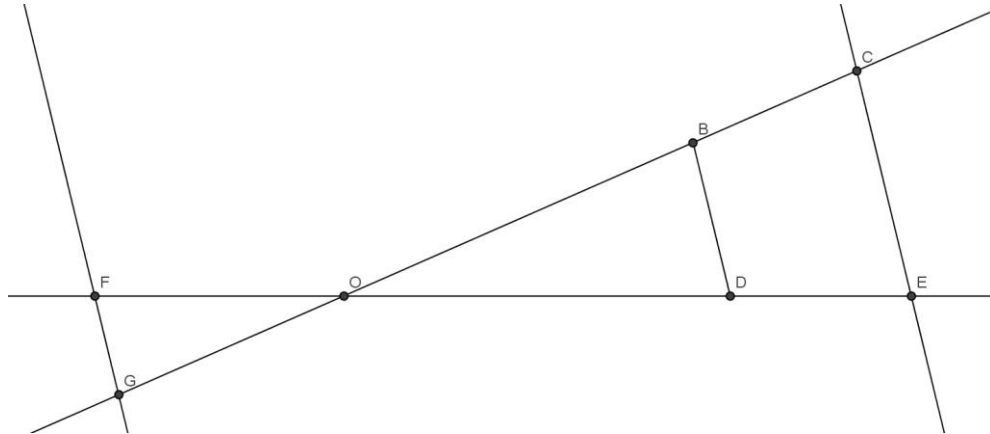NAME :

Mark :   /20

Class min/mean/max:

Parents signature :

Joyeux Noël et bonnes vacances !
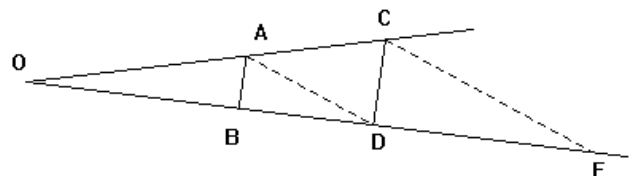
Duration : 45'

Exercise 1: (6pts) from Brevet 2012

On the diagram above (not to scale), the lines (BD) and (CE) are parallel.

OB = 7.2 cm ; OC = 10.8 cm ; OD = 6 cm ; CE = 5.1 cm.

1. Calculate OE and then BD.
2. We give OG = 2.4 and OF = 2.
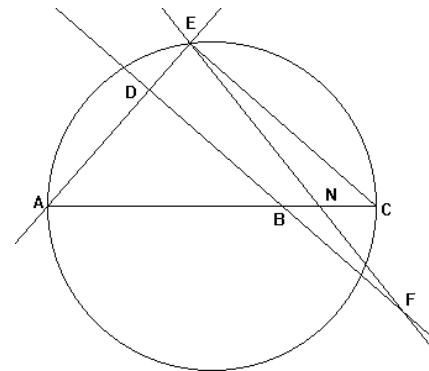   Prove that the lines (GF) and (BD) are parallel ?

Exercise 2: (6pts)

On the diagram opposite (not to scale), the lines (AB) and (CD) are parallel.

OA = 5 cm ; AC = 4 cm ; OB = 3.5 cm ; DE = 5.06 cm.

Are the lines (AD) and (CE) parallel ? Justify your answer. *(Hint: you will need 2 stages to answer)*

Exercise 3: (8pts)

1) Reproduce the diagram opposite in the following way :
- Draw a segment [AC] which measures 10 cm
- Mark a point B on [AC] such that AB=7cm
- Draw a triangle ADB such that AD = 4.2 cm and BD = 5.6 cm.
- Draw the circle diameter [AC] ; it intersects (AD) at a point E.

2) What sort of triangle is ADB? Justify your answer.
3) Calculate CE, justifying your answer.
4) Mark the point N on [BC] such that BN=1 cm. The line (EN) intersects [DB] at F.   Calculate BF, justifying your answer.