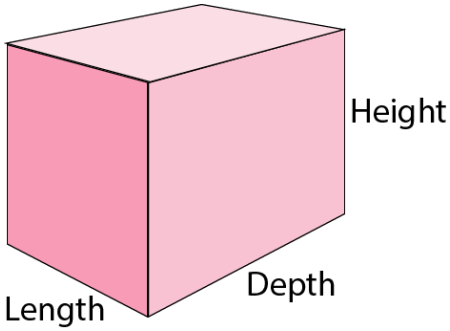
Question 1

The length, depth and height of a cuboid are in the ratio 2 : 3 : 4 respectively.
The area of the smallest face is 150 cm^3.



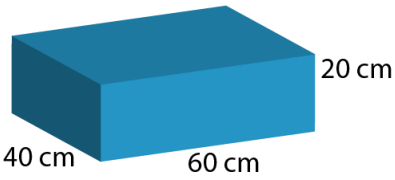
Work out the volume of the cuboid.

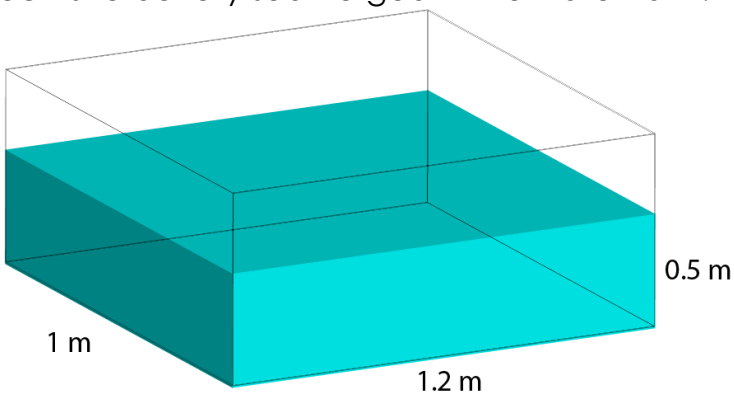
Question 2

The diagrams show a block and a water tank.

- The block has a width of 40 cm, a length of 60 cm and a height of 20 cm.
- The tank has a base measuring 1 m by 1.2 m.
- The tank is partially filled with water to a depth of 0.5 m.

The block is to be fully submerged in the water tank.





Work out the new water level in the tank.

Question 3

The dimensions of an Olympic-sized swimming pool are 50 m long, 25 m wide, and the water is 2 m deep.

Water is to be completely drained from the full swimming pool at a rate of 10 litres per second.

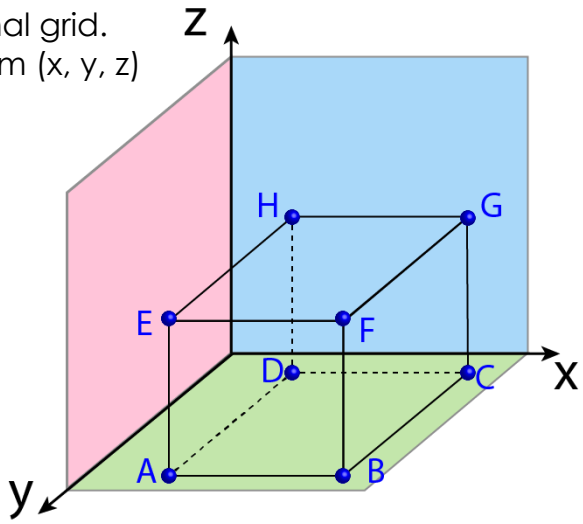
How many hours will it take to fully drain the Olympic swimming pool?

Give your answer correct to the nearest hour.

Question 4

The diagram shows a cuboid on a 3-dimensional grid.
The coordinates of the grid are given in the form (x, y, z)

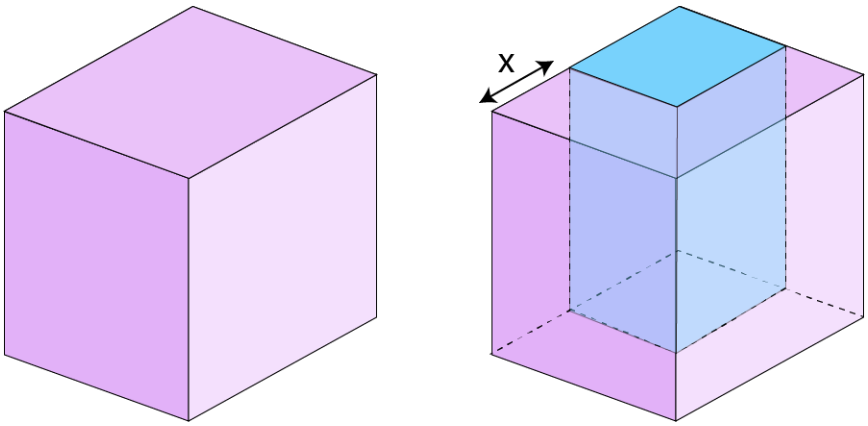
- Point C lies at coordinate (5, 1, 0)
- Point F lies at coordinate (5, 7, 4)
- The cuboid has a volume of 96 units^3.



Work out the coordinates of point E.

Question 5

The pink cube has a volume of 512 cm^3.
A blue cuboid is cut away from the pink cube.
The blue cuboid has a volume of 72 cm^3.



Work out the length marked x.