# Slicing a Right Rectangular Prism with a Plane

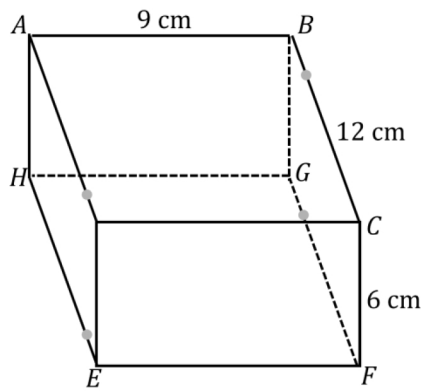
In the following figures, use a straightedge to join the points where a slicing plane meets with a right rectangular prism to outline the slice.

i. Label the vertices of the rectangular slice .

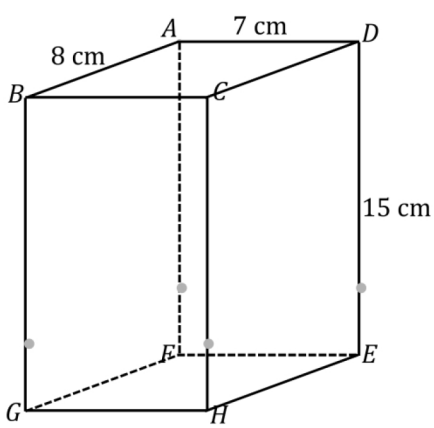
ii. State any known dimensions of the slice.

iii. Describe two relationships slice has in relation to faces of the right rectangular prism.

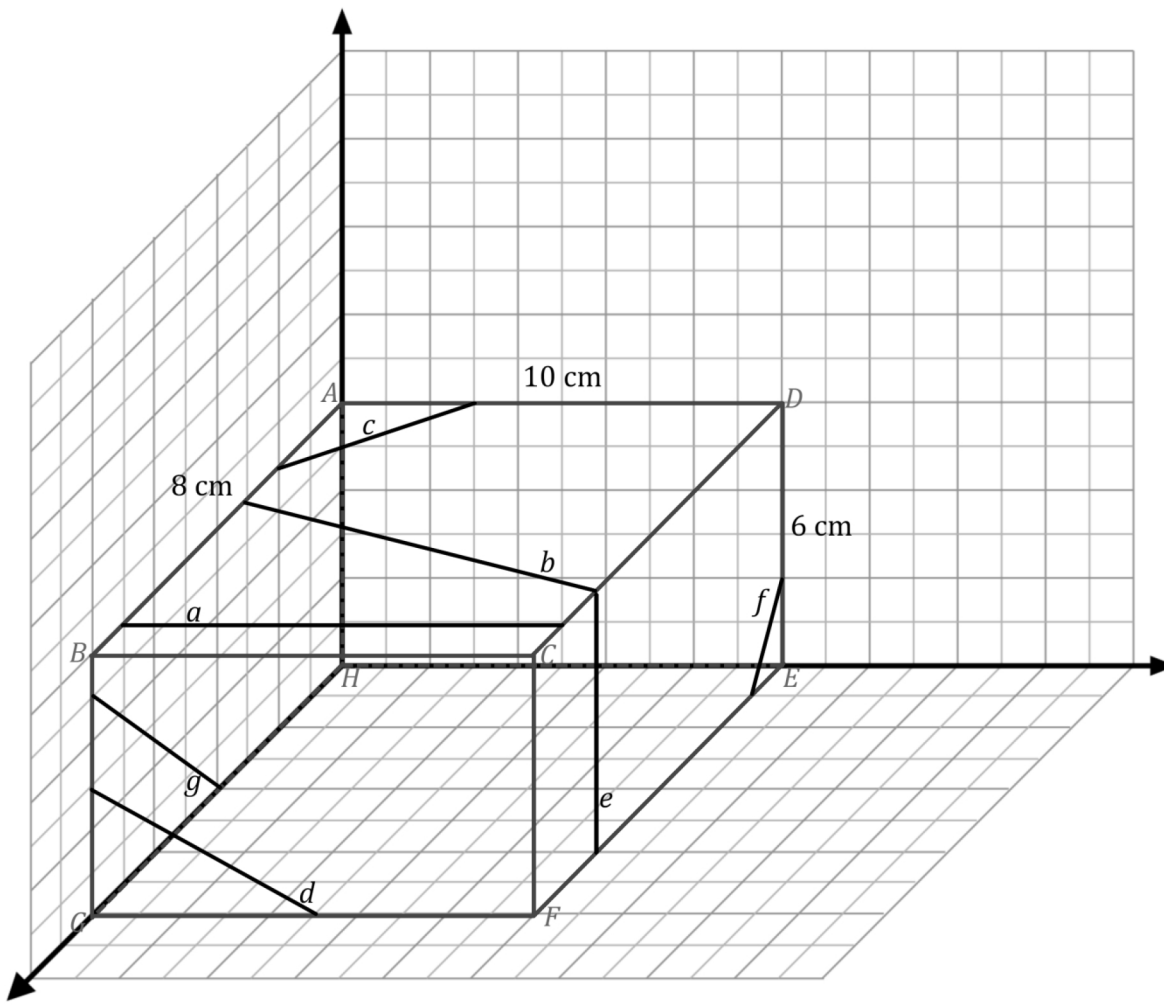
1.



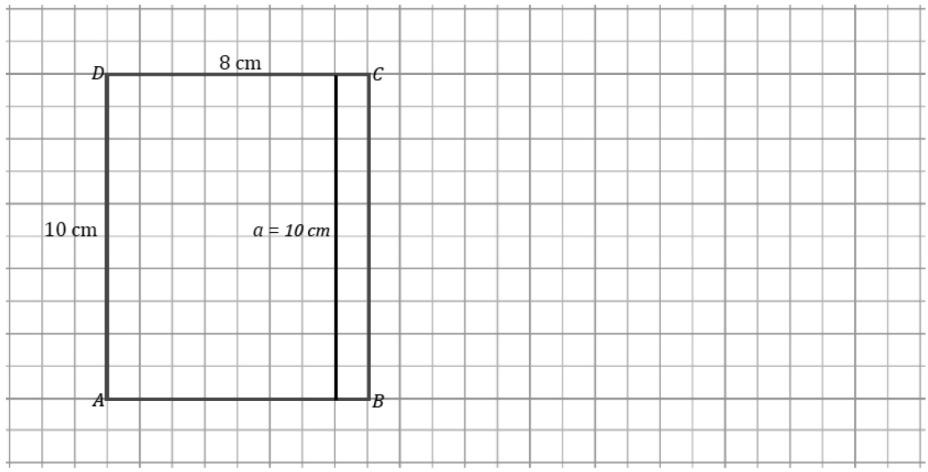

2.



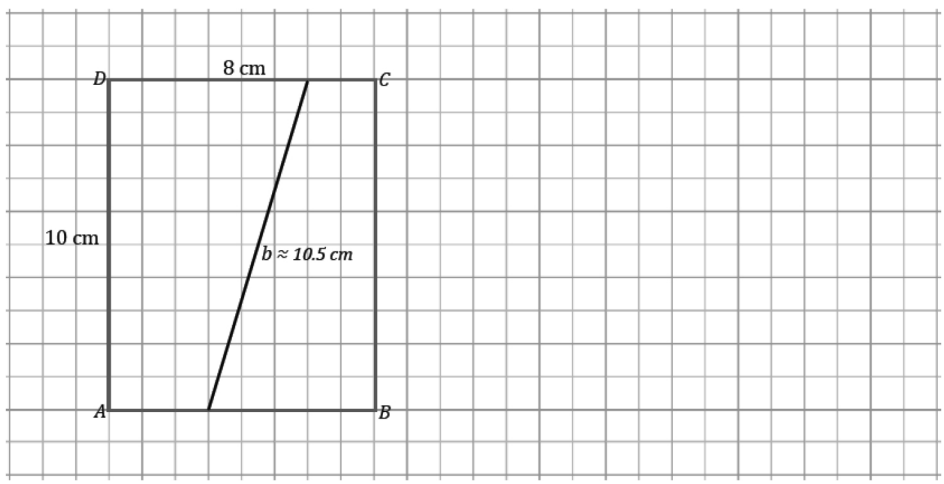
A right rectangular prism is shown along with line segments that lie in a face. For each line segment, draw and give the approximate dimensions of the slice that results when the slicing plane contains the given line segment and is perpendicular to the face that contains the line segment.



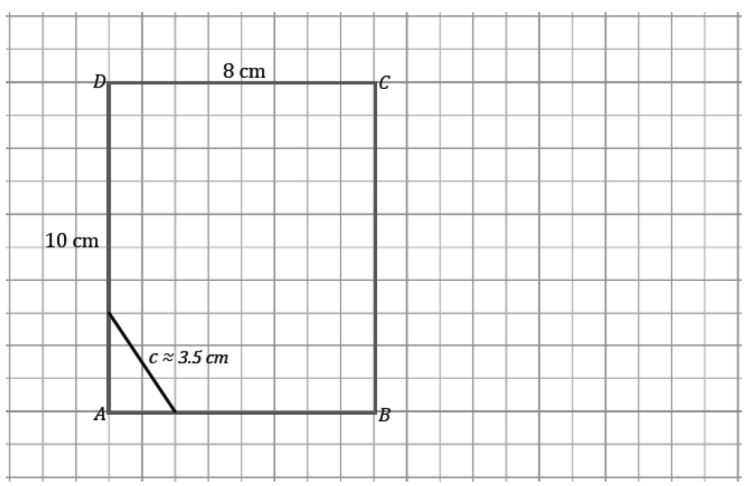
a.



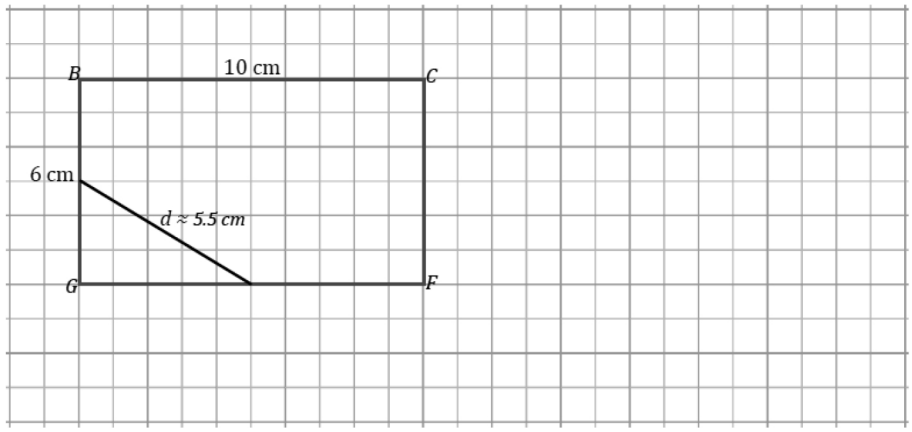

b.



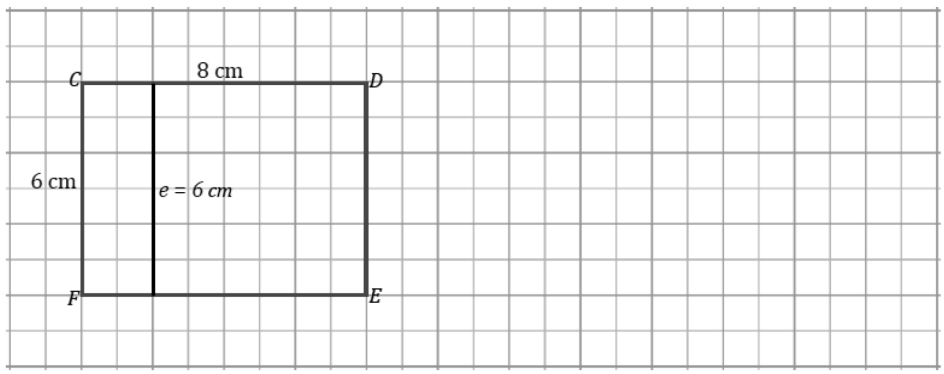

c.



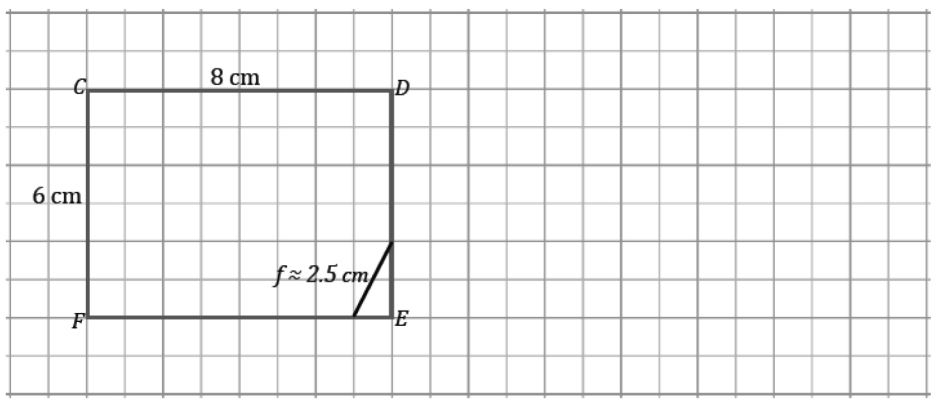
d.



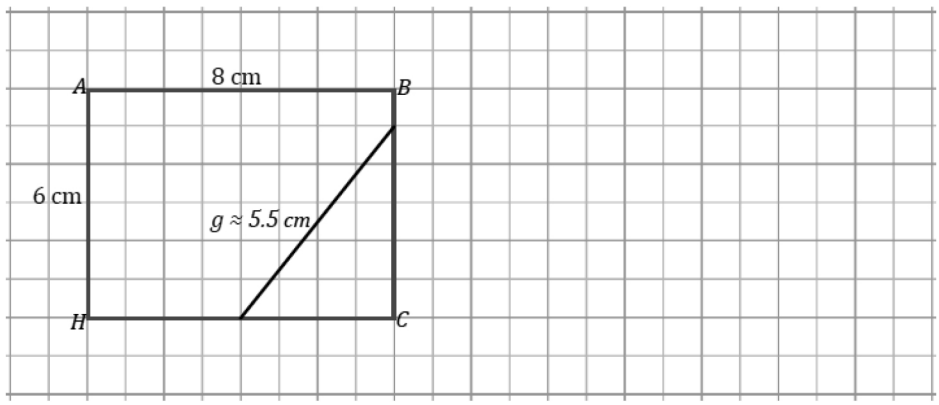

e.




f.



g.



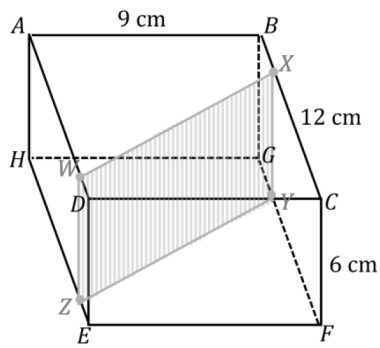
**In the following figures, use a straightedge to join the points where a slicing plane meets with a right rectangular prism to outline the slice.**

i. **Label the vertices of the rectangular slice .**

ii. **State any known dimensions of the slice.**

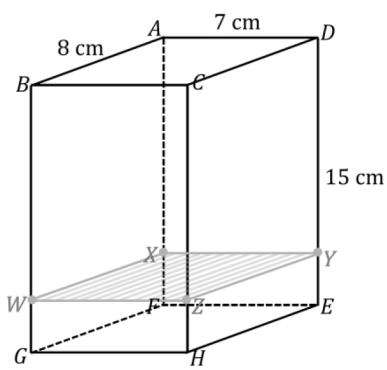
iii. **Describe two relationships slice has in relation to faces of the right rectangular prism.**

**1.**




*Sides and are cm in length. Slice is perpendicular to faces and .*

**2.**

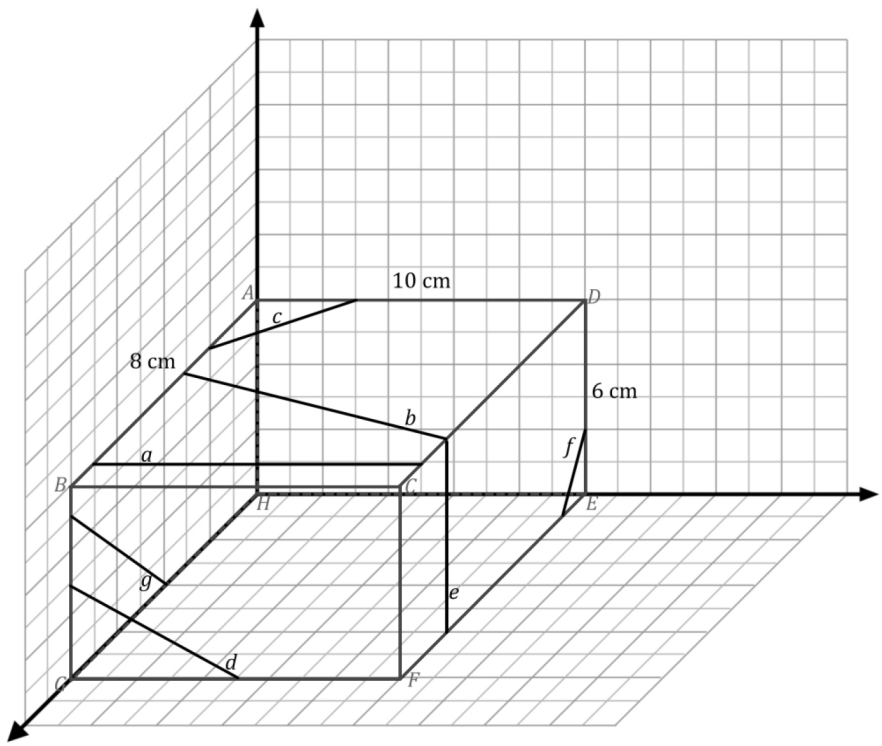



*Sides and are cm in length. Sides and are cm in length. Slice is parallel to faces and and perpendicular to faces , , , and .*

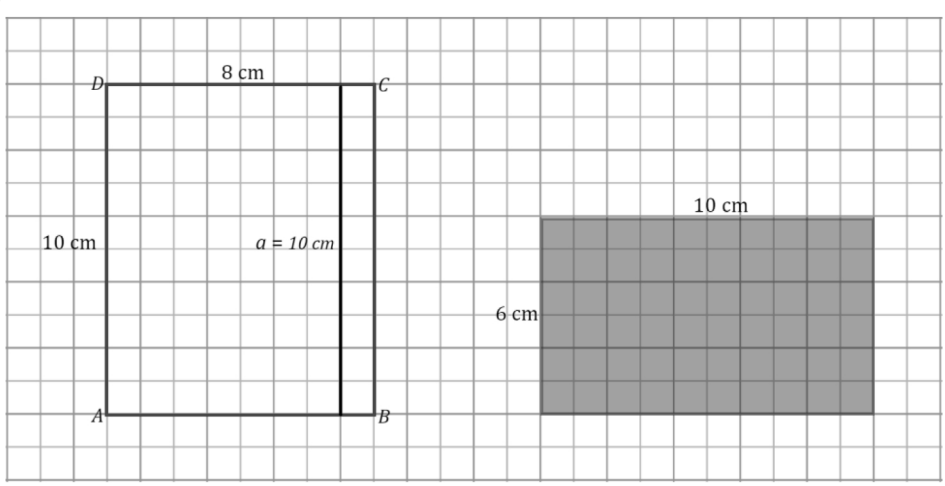
*Note: Students are only required to state two of the relationships the slice has with the faces of the prism.*

Note: Students have not yet studied the Pythagorean Theorem; thus the answers provided for the missing length of each line segment are possible answers that are made based on rough approximations.

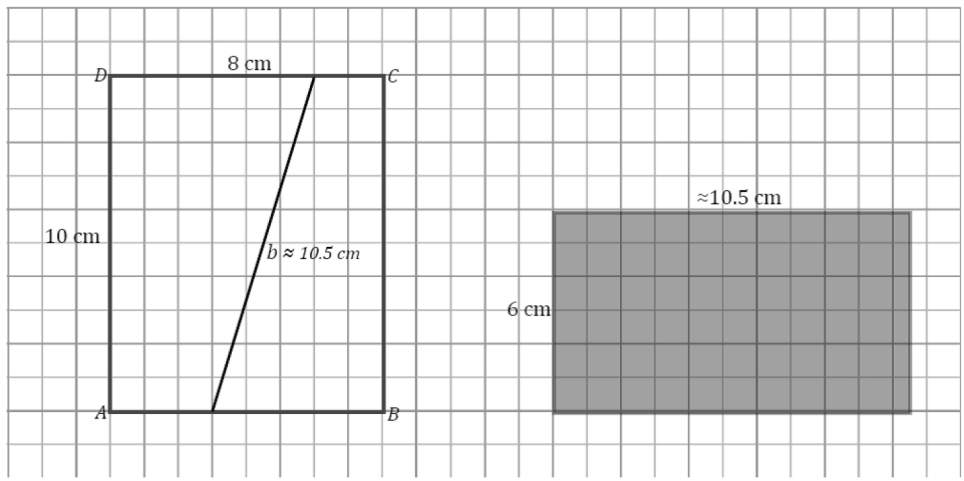
**A right rectangular prism is shown along with line segments that lie in a face. For each line segment, draw and give the approximate dimensions of the slice that results when the slicing plane contains the given line segment and is perpendicular to the face that contains the line segment.**



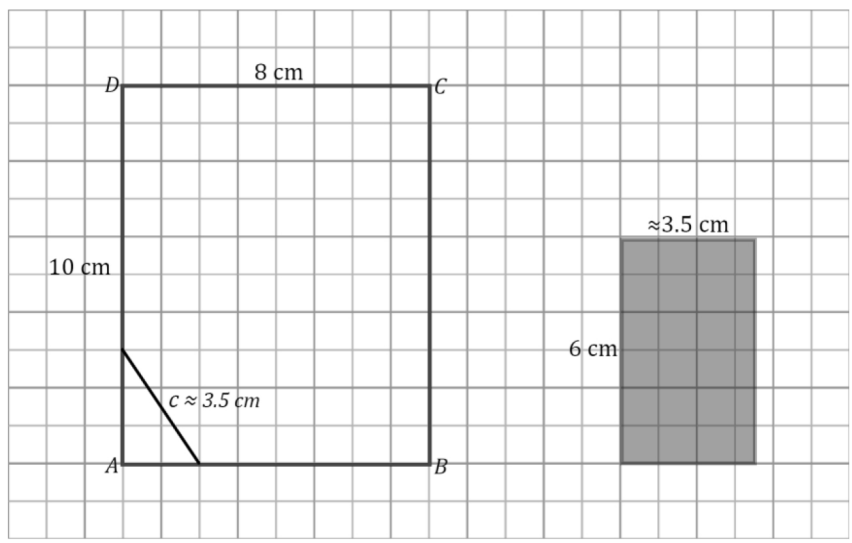

**a.**



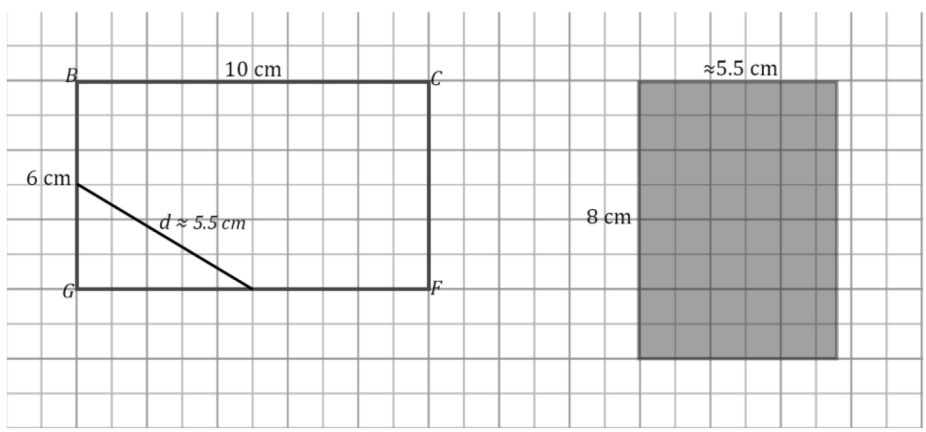
**b.**



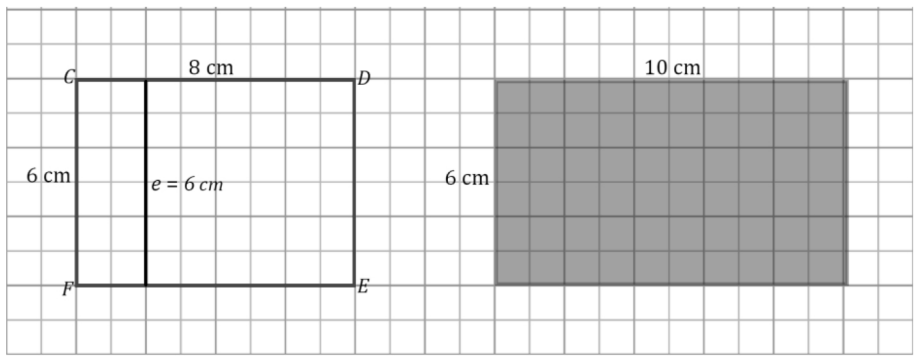

**c.**



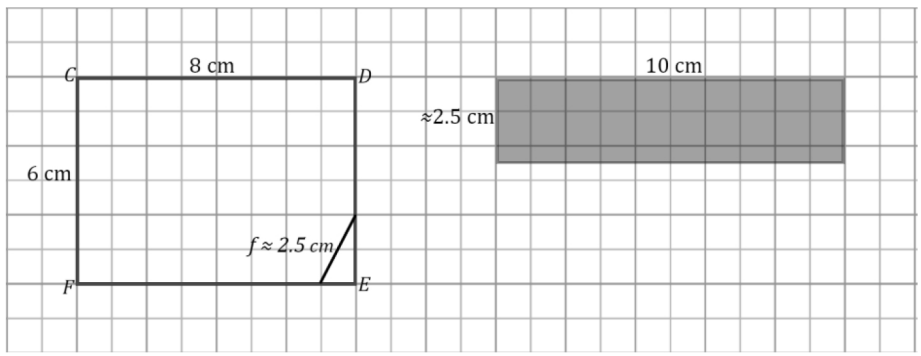

**d.**



**e.**




**f.**




**g.**