Langara College

CPSC 1091: Engineering Design and Drafting

Midterm - Fall 2020

Time: 110 min

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Student #: 100345195

Score: _____ /100

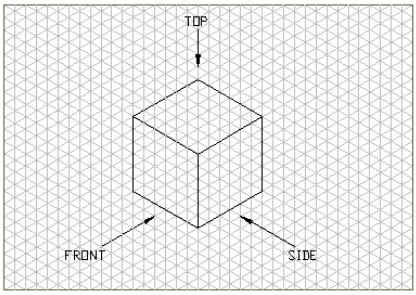
CLOSED-BOOK EXAM

Drawing kit and calculator are allowed.

In accordance with the F1004 - Code of Academic Conduct, cheating in any form will not be tolerated. Cheating include but are not limited to the following:

- Copying another student's exam or allowing a student to copy your exam;
- Using unauthorized information, books, notes, diagrams or other aids during an exam;
- Obtaining or using unauthorized material, such as a copy of an exam before it is given;
- Communicating with any person during the exam, other than the exam invigilator or instructor;
- Helping another person cheat.

1. For all the problems, the orientation of the isometric view should be as shown in the following example.
2. The total mark of this exam is equal to 100, and it worth 15% of your final mark.



Short Answer

Label the following statements (1-10) with either a T to indicate a True statement or an F to indicate a False statement. **[10 marks]**

1. Surfaces that are parallel to the lines of sight will be represented as a line.
2. No two contiguous areas in multiview drawing can lie in the same plane.
3. A perspective is a type of projection that is the most closely view of an object as seen by the human eye.
4. You can observe the width, height, and depth of an object in a single view in a pictorial sketch.
5. An inclined edge is parallel to one plane of projection but inclined to adjacent planes.
6. The angles of an inclined line in a multiview drawing can be transferred directly to an isometric drawing.
7. Features are observed in true length or size when the lines of sight are perpendicular to the feature.
8. Visible lines do NOT always take precedence over hidden lines or centerlines.
9. Third-angle projection is primarily used in Europe and Asia.
10. An oblique plane multi-view drawing is drawn with features in which two of the views are shown in true size and shape.

Multiple-Choice

Circle the correct answer for each of the following multiple-choice questions (11 – 15). **[10 marks]**

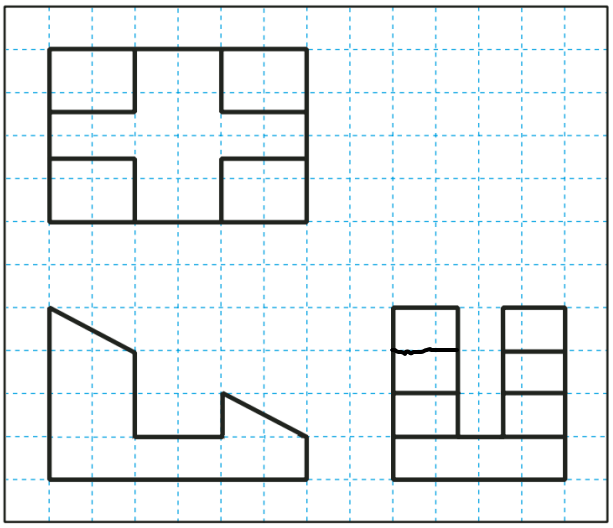
11. When a surface of an object is inclined to a plane of projection, it will appear in the view
    a. Foreshortened
    b. In true size and shape
    c. As in line
    d. As a point
12. Depending on its relationship to the projection plane on which the view is projected, a line may project:
    a. True length
    b. Foreshortened
    c. As a point
    d. All of the above
13. Inclined planes in a multiview drawing will appear as ----- in each view:
    a. Two edges and one plane
    b. Two planes and one edge
    c. Three edges
    d. Foreshortened in each view
14. In an oblique drawing, the projection rays are drawn _____ to each other and _____ to the plane of projection.
    a. Oblique, oblique

b. Parallel, oblique
c. Oblique, parallel
d. Parallel, parallel

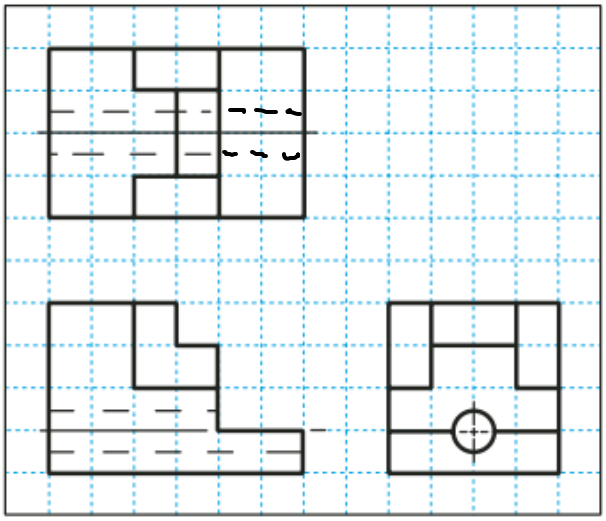
15. The bounding box method for setting up an isometric drawing helps to _____.
a. Confine the isometric drawing to its maximum size
b. Figure what lines are to be illustrated vertical and horizontal
c. Position the isometric drawing in paper space
d. None of the above

Drawing

16. Given three incomplete views of the two following multiview drawings, add the missing line(s). Afterwards, create the isometric sketch of the multiview drawing (16-a) in the following isometric grid. **[20 marks]**



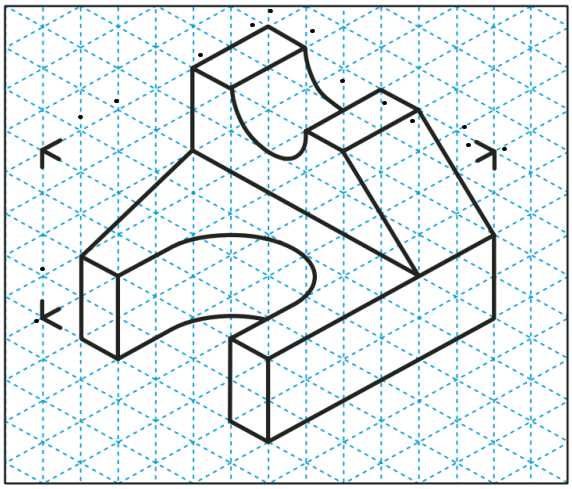
(16-a)



(16-b)

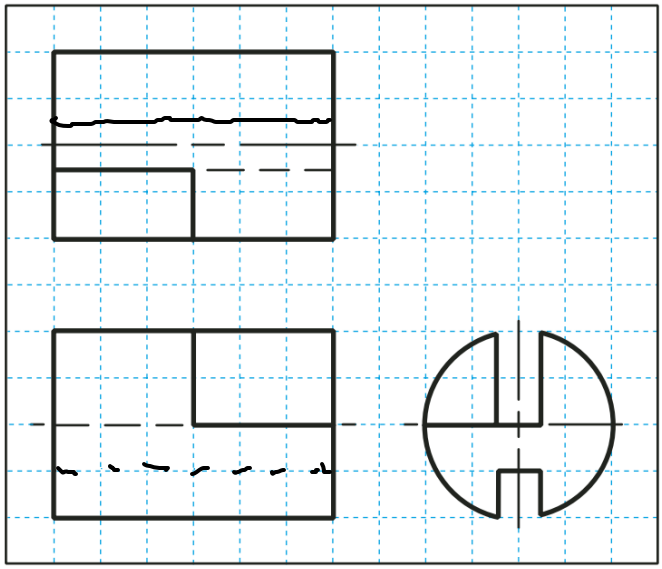
Attached

17. For the given isometric drawing of an object, draw the corresponding multiview drawing (top, front and right side view) on the provided orthographic grid. **[15 marks]**



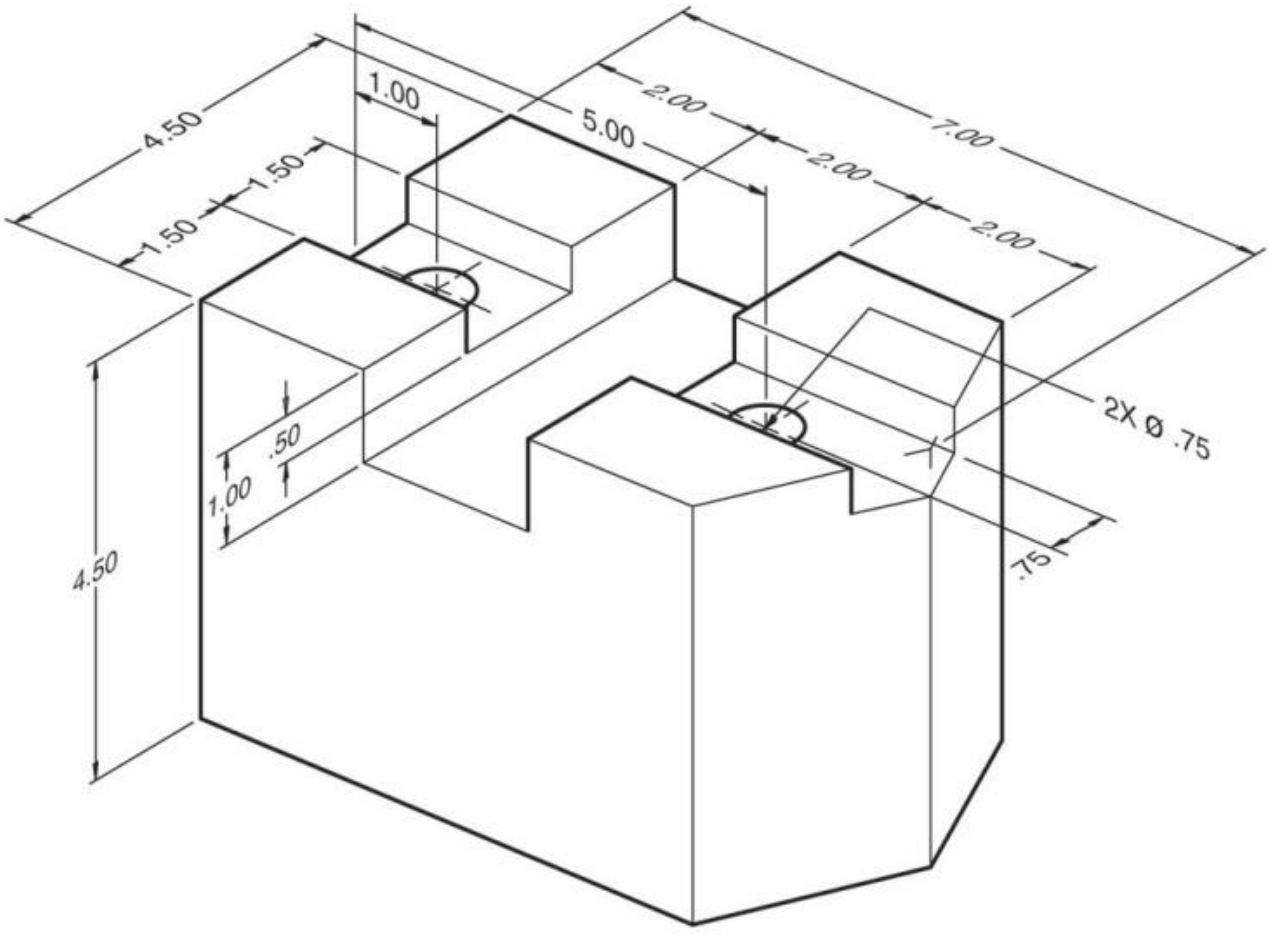
Attached

18. Given three incomplete views of the following multiview drawing, add the missing line(s). Afterwards, create the isometric sketch of the multiview drawing in the following isometric grid. **[15 marks]**



Attached

19. Sketch the following figure as a 3D part file in SolidWorks and upload the SLDPRT file into D2L in the midterm submission folder. **[30 marks]**
    - Use appropriate unit system.
    - Dimensional values are as indicated.
    - Sketch should be fully defined.
    - Save your file as Question_19_Full Name.SLDPRT
    - If you cannot tell where a cut or hole ends, assume it passes through the entire object.



Tool Block (Dimensions are in inches).