



**Exercises/Models used in the book
are available for free download**

Free Companion Website
www.cadartifex.com



SOLIDWORKS Exercises

Learn by Practicing

Design 50 Real-World 3D Models by Practicing

SOLIDWORKS Exercises

Learn by Practicing

**Design 50 Real-World 3D Models by
Practicing**



The premium provider of learning products and solutions

www.cadartifex.com

SOLIDWORKS Exercises: Learn by Practicing

Published by
CADArtifex
www.cadartifex.com

Copyright © 2017 CADArtifex

This book is copyrighted and the CADArtifex reserves all rights. No part of this publication may be reproduced, stored in a retrieval system, transmitted, transcribed, stored in a retrieval system or translated into any language, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise without the prior written permission of the Publisher.

ISBN-13: 978-1548361280

ISBN-10: 1548361283

NOTICE TO THE READER

The publisher and the author make no representations or warranties with respect to the accuracy or completeness of the contents of this work/text and specifically disclaim all warranties, including without limitation warranties of fitness for a particular purpose. Publisher does not guarantee any of the products described in the text or perform any independent analysis in connection with any of the product information contained in the text. No warranty may be created or extended by sales or promotional materials. This work is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional services. Neither the publisher nor the author shall be liable for damages arising herefrom. Further, readers should be aware that Internet Websites listed in this work may have changed or disappeared between when this work was written and when it is read.

Examination Copies

Books received as examination copies in any form such as paperback and eBook are for review only and may not be made available for the use of the student. These files may not be transferred to any other party. Resale of examination copies is prohibited.

Electronic Files

The electronic file/eBook in any form of this book is licensed to the original user only and may not be transferred to any other party.

Disclaimer

The author has made sincere efforts to ensure the accuracy of the material described herein, however the author makes no warranty, expressed or implied, with respect to the quality, correctness, accuracy, or freedom from error of this document or the products it describes.

www.cadartifex.com

Dedication

First and foremost, I would like to thank my parents for being a great support throughout my career and while writing this book.

Heartfelt thanks go to all the users of ***SOLIDWORKS 2017: A Power Guide for Beginners and Intermediate Users*** textbook published by **CADArtifex** for inspiring me in taking this challenge.

I would also like to acknowledge the efforts of the employees at CADArtifex for their dedication in editing the content of this book.

Table of Contents

[Dedication](#)

[Preface](#)

SOLIDWORKS Exercises: Learn by Practicing

[Exercise 1.](#)

[Exercise 2.](#)

[Exercise 3.](#)

[Exercise 4.](#)

[Exercise 5.](#)

[Exercise 6.](#)

[Exercise 7.](#)

[Exercise 8.](#)

[Exercise 9.](#)

[Exercise 10.](#)

[Exercise 11.](#)

[Exercise 12.](#)

[Exercise 13.](#)

[Exercise 14.](#)

[Exercise 15.](#)

[Exercise 16.](#)

[Exercise 17.](#)

[Exercise 18.](#)

[Exercise 19.](#)

[Exercise 20.](#)

[Exercise 21.](#)

[Exercise 22.](#)

[Exercise 23.](#)
[Exercise 24.](#)
[Exercise 25.](#)
[Exercise 26.](#)
[Exercise 27.](#)
[Exercise 28.](#)
[Exercise 29.](#)
[Exercise 30.](#)
[Exercise 31.](#)
[Exercise 32.](#)
[Exercise 33.](#)
[Exercise 34.](#)
[Exercise 35.](#)
[Exercise 36.](#)
[Exercise 37.](#)
[Exercise 38.](#)
[Exercise 39.](#)
[Exercise 40.](#)
[Exercise 41.](#)
[Exercise 42.](#)
[Exercise 43.](#)
[Exercise 44.](#)
[Exercise 45.](#)
[Exercise 46.](#)
[Exercise 47.](#)
[Exercise 48.](#)
[Exercise 49.](#)
[Exercise 50.](#)

Preface

SOLIDWORKS, developed by Dassault Systèmes SOLIDWORKS Corp., one of the biggest technology providers to engineering, offers complete 3D software tools that let you create, simulate, publish, and manage data. The products of SOLIDWORKS are easy to learn and use, and are integrated with each other to help you design products accurately, fast, and cost-effectively.

SOLIDWORKS delivers a rich set of integrated tools that are powerful and intuitive to use. It is a feature-based, parametric solid-modeling mechanical design, and automation software that allows you to create real-world 3D components and assemblies by using simple but highly effective tools. The 3D components and assemblies created in SOLIDWORKS can be converted into 2D drawings with few mouse clicks. In addition, you can validate your designs by simulating their real-world conditions and assess the environmental impact of your products.

SOLIDWORKS Exercises: Learn by Practicing book is designed to help engineers and designers interested in learning SOLIDWORKS by practicing 50 real-world mechanical models. This book does not provide step-by-step instructions to design 3D models. Instead, its a practice book that challenges users to first analyze the drawings and then create the models using the powerful toolset of SOLIDWORKS. This approach helps users to enhance their design skills and take it to the next level. You can download all exercises used in this book for free by logging into our website (www.cadartifex.com).

Who Should Read This Book

This book is written with a wide range of SOLIDWORKS users in mind, varying from beginners to advanced users. In addition to SOLIDWORKS, each exercise of this book can also be designed on any other CAD software such as Catia, Creo Parametric, NX, Autodesk Inventor, and Solid Edge.

Prerequisites

To complete the exercises given in this book, you should have knowledge of SOLIDWORKS. If you want to learn SOLIDWORKS step-by-step, you can refer to the ***SOLIDWORKS 2017: A Power Guide for Beginners and Intermediate Users*** textbook published by CADArtifex.

What Is Covered in This Book

SOLIDWORKS Exercises: Learn by Practicing book consists of 50 real-world mechanical models. After creating these models, you would be able to take your design skills to the professional level.

Download

The exercises used in this book are available for free download. To download the exercises, follow the steps given below:

1. Login to the **CADArtifex** website (www.cadartifex.com) by using your username and password. If you are new user, you need first to register on CADArtifex website as a student.
2. After login to the **CADArtifex** website, click on **SOLIDWORKS > SOLIDWORKS Exercises**. Now, you can download the exercises of this book by using the Exercises drop-down list.

How to Contact the Author

We always value the feedback we receive from our readers. If you have any suggestions or feedback, please write to us at info@cadartifex.com. You can also provide your feedback by logging into our website www.cadartifex.com.

Thank you very much for purchasing ***SOLIDWORKS Exercises: Learn by Practicing*** book, we hope that the exercises given in this book will help you to accomplish your professional goals.

SOLIDWORKS Exercises: Learn by Practicing

Each of the 50 exercises of the book can be designed separately. No exercise is a prerequisite for another. All the dimensions used in the exercises are in mm. The drawing views of the exercises given in this book follow the third angle of projection. In the third angle of projection, the projection of the front view of the model appears on the bottom and the projection of the top view appears on the top in the drawing. Also, the right side view appears on the right and the left side view appears on the left of the front view.

Exercise 1.

Create the 3D model shown in Figure 1. Different views of the model and dimensions are shown in Figure 2. All dimensions are in mm. [Expected time: 20 min]

Figure 1

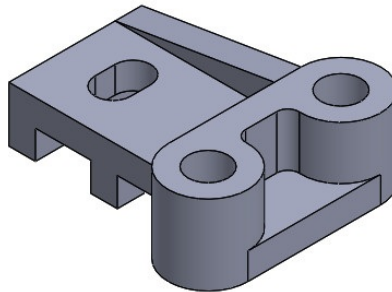
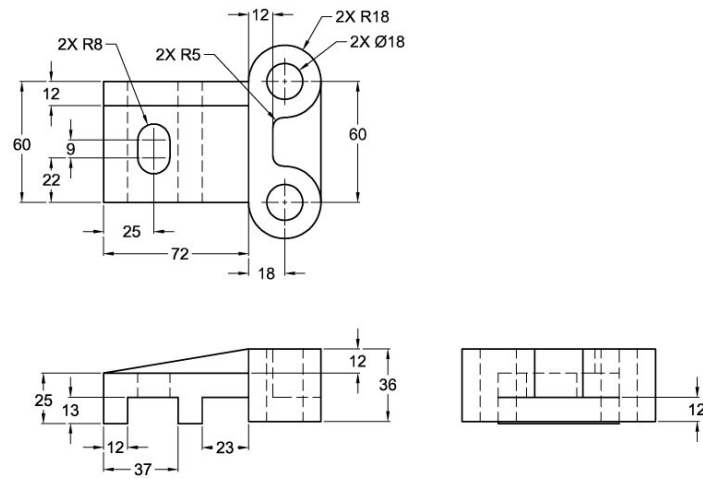


Figure 2



Exercise 2.

Create the 3D model shown in Figure 3. Different views of the model and dimensions are shown in Figure 4. All dimensions are in mm. [Expected time: 20 min]

Figure 3

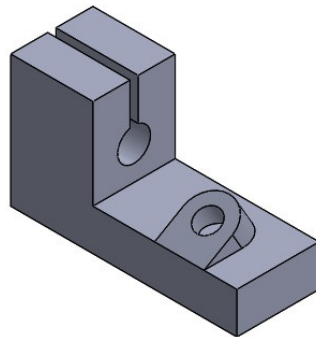
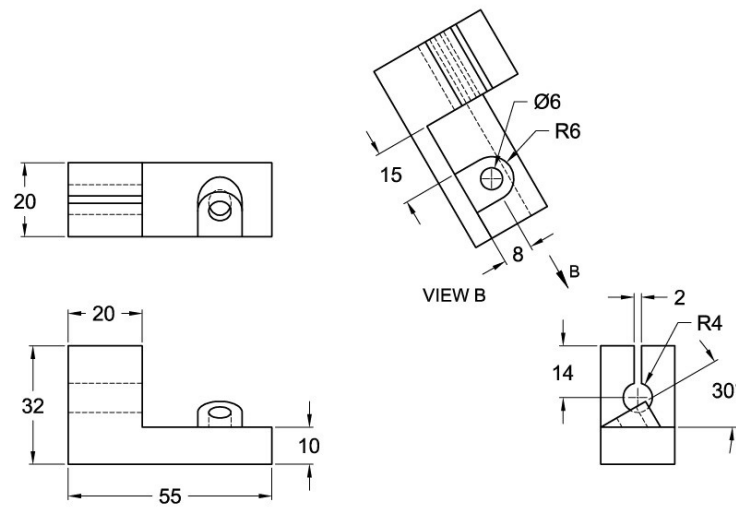


Figure 4



Exercise 3.

Create the 3D model shown in Figure 5. Different views of the model and dimensions are shown in Figure 6. All dimensions are in mm. [Expected time: 20 min]

Figure 5

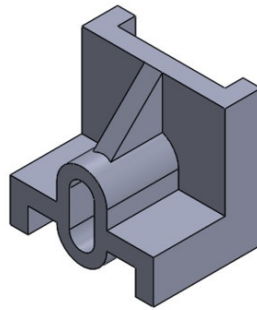
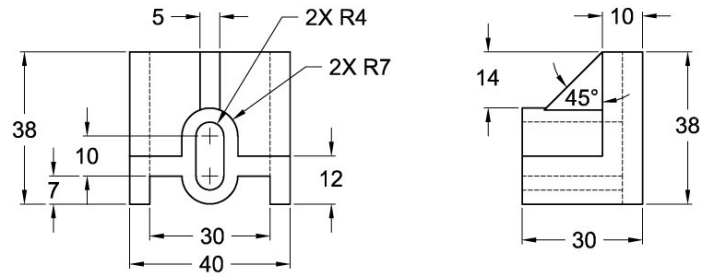
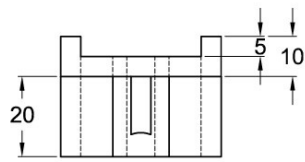


Figure 6



Exercise 4.

Create the 3D model shown in Figure 7. Different views of the model and dimensions are shown in Figure 8. All dimensions are in mm. [Expected time: 20 min]

Figure 7

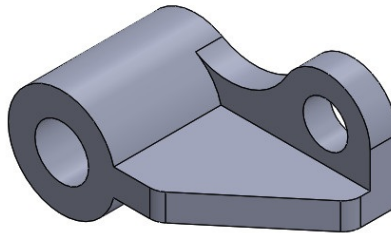
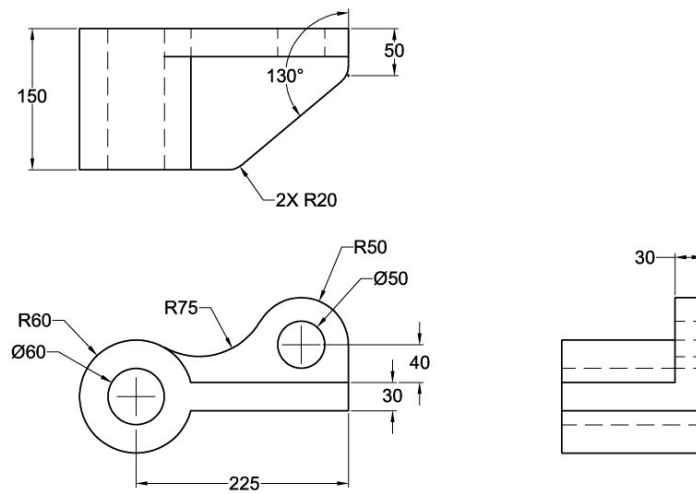


Figure 8



Exercise 5.

Create the 3D model shown in Figure 9. Different views of the model and dimensions are shown in Figure 10. All dimensions are in mm. [Expected time: 20 min]

Figure 9

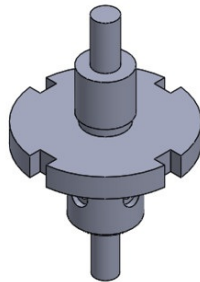
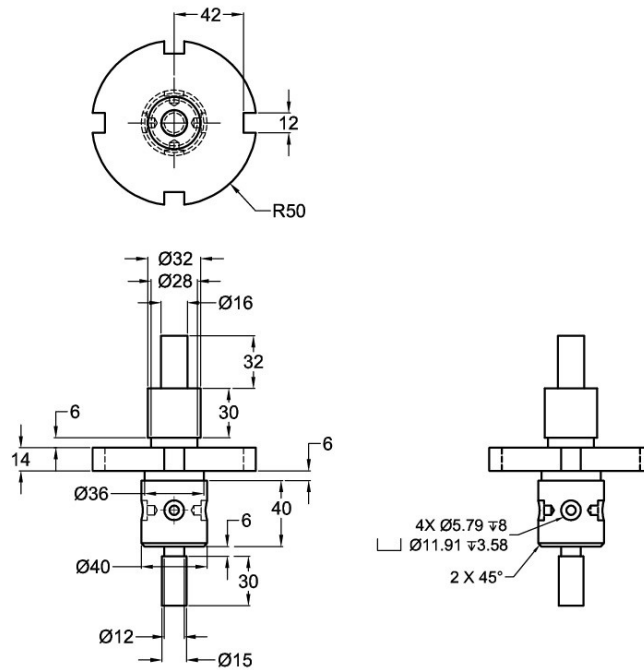


Figure 10



Exercise 6.

Create the 3D model shown in Figure 11. Different views of the model and dimensions are shown in Figure 12. All dimensions are in mm. [Expected time: 25 min]

Figure 11

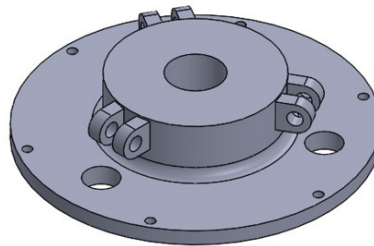
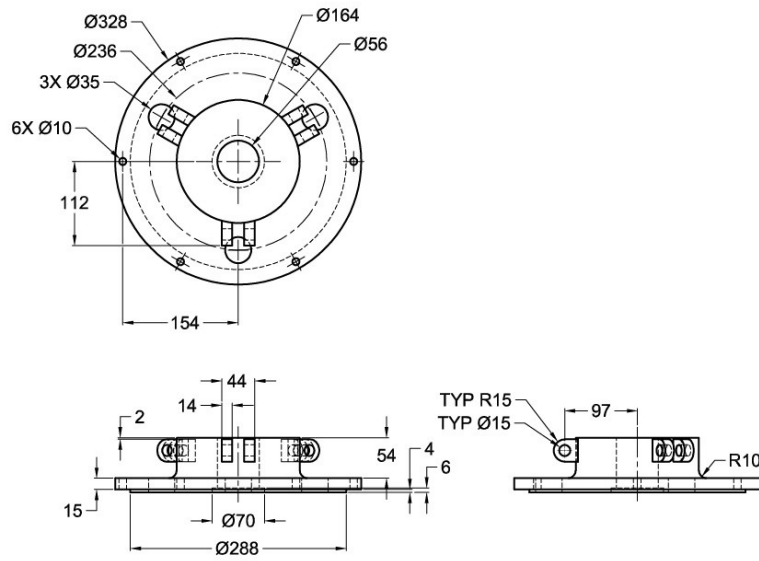


Figure 12



Exercise 7.

Create the 3D model shown in Figure 13. Different views of the model and dimensions are shown in Figure 14. All dimensions are in mm. [Expected time: 25 min]

Figure 13

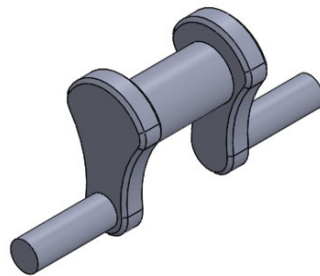
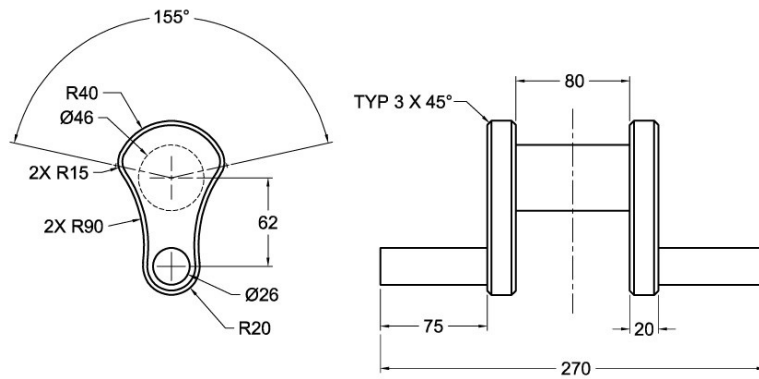


Figure 14



Exercise 8.

Create the 3D model shown in Figure 15. Different views of the model and dimensions are shown in Figure 16. All dimensions are in mm. [Expected time: 20 min]

Figure 15

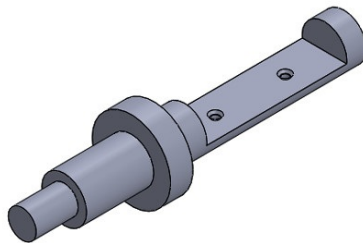
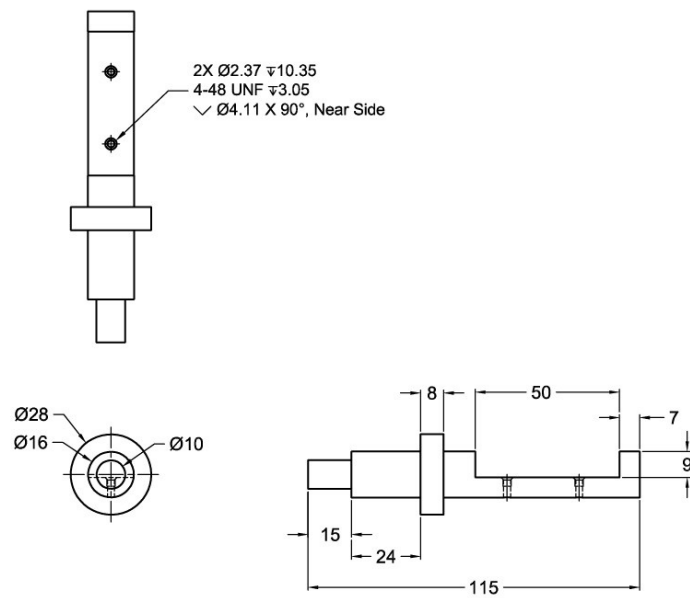


Figure 16



Exercise 9.

Create the 3D model shown in Figure 17. Different views of the model and dimensions are shown in Figure 18. All dimensions are in mm. [Expected time: 25 min]

Figure 17

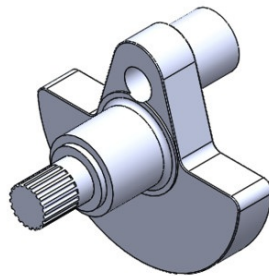
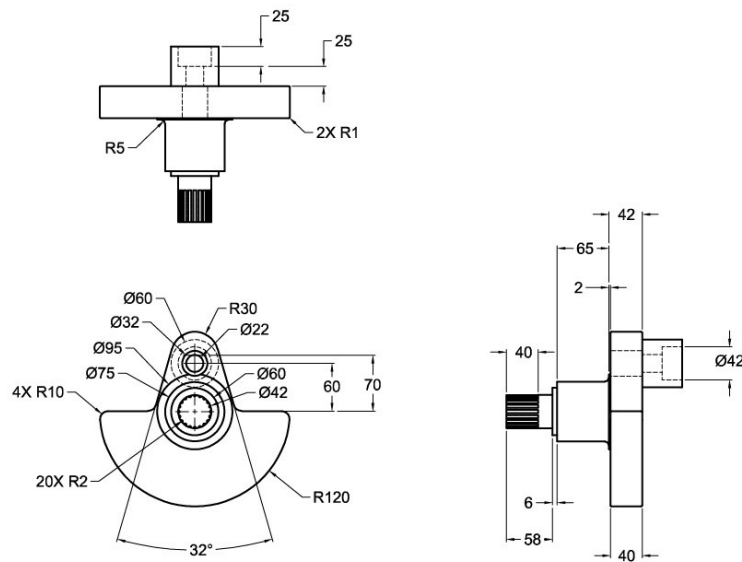


Figure 18



Exercise 10.

Create the 3D model shown in Figure 19. Different views of the model and dimensions are shown in Figure 20. All dimensions are in mm. [Expected time: 25 min]

Figure 19

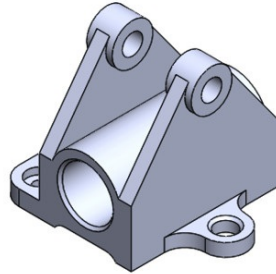
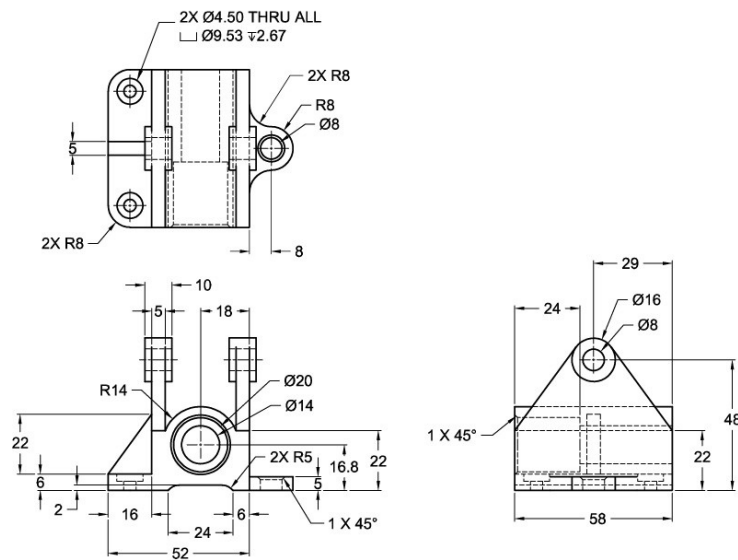


Figure 20



Exercise 11.

Create the 3D model shown in Figure 21. Different views of the model and dimensions are shown in Figure 22. All dimensions are in mm. [Expected time: 25 min]

Figure 21

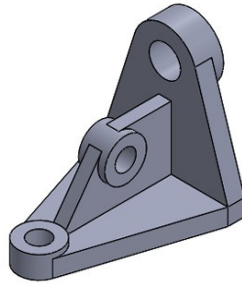
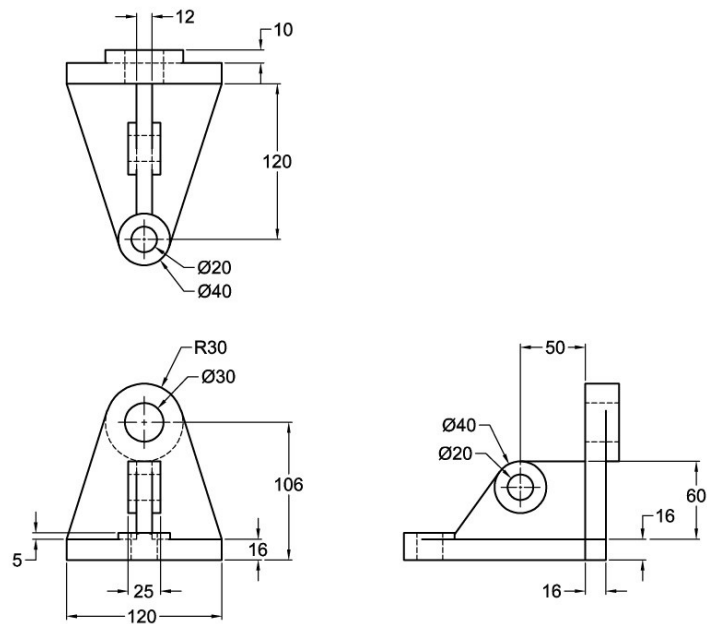


Figure 22



Exercise 12.

Create the 3D model shown in Figure 23. Different views of the model and dimensions are shown in Figure 24. All dimensions are in mm. [Expected time: 30 min]

Figure 23

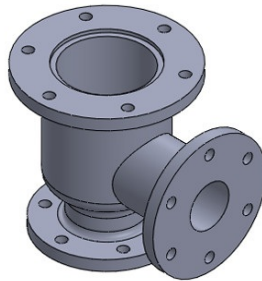
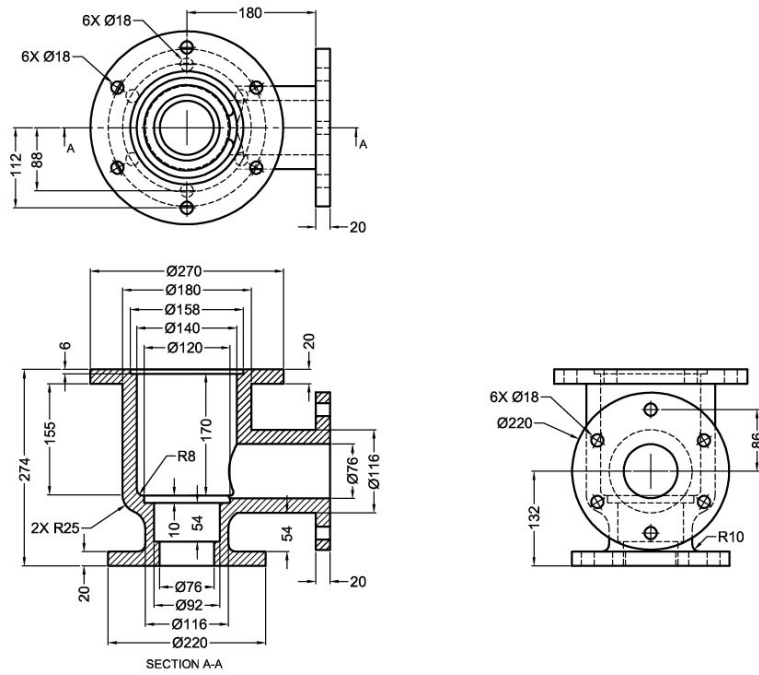


Figure 24



Exercise 13.

Create the 3D model shown in Figure 25. Different views of the model and dimensions are shown in Figure 26. All dimensions are in mm. [Expected time: 25 min]

Figure 25

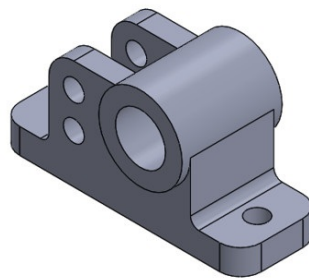
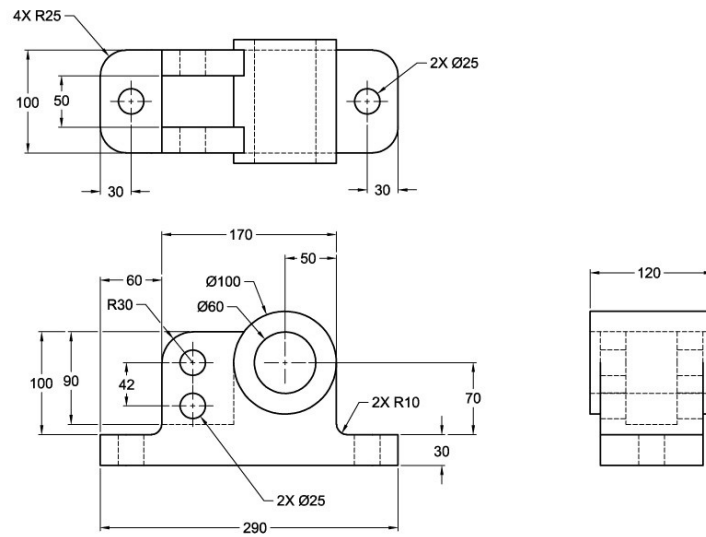


Figure 26



Exercise 14.

Create the 3D model shown in Figure 27. Different views of the model and dimensions are shown in Figure 28. All dimensions are in mm. [Expected time: 35 min]

Figure 27

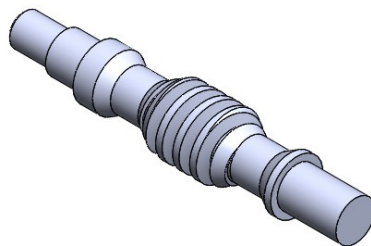
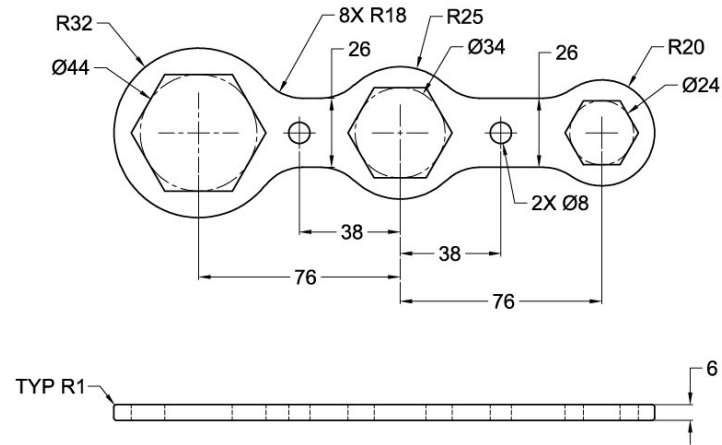


Figure 28



Exercise 16.

Create the 3D model shown in Figure 31. Different views of the model and dimensions are shown in Figure 32. All dimensions are in mm. [Expected time: 30 min]

Figure 31

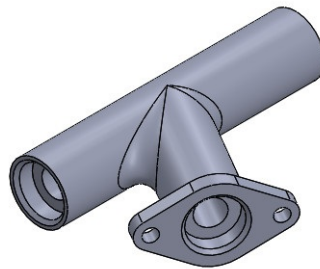
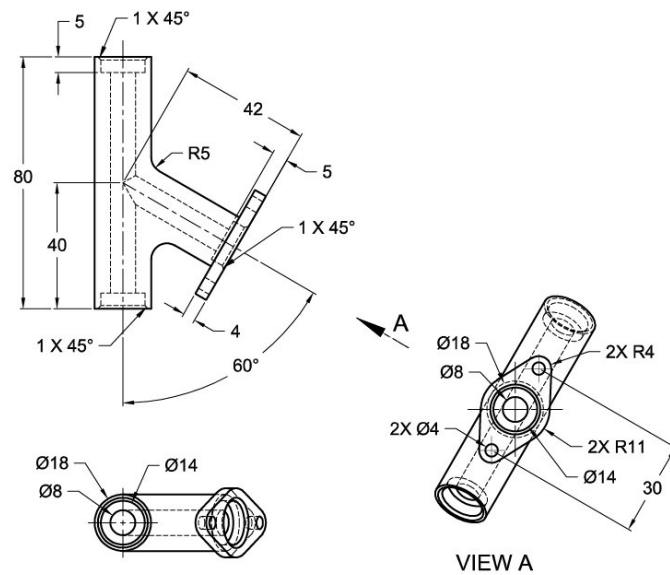


Figure 32



Exercise 17.

Create the 3D model shown in Figure 33. Different views of the model and dimensions are shown in Figure 34. All dimensions are in mm. [Expected time: 25 min]

Figure 33

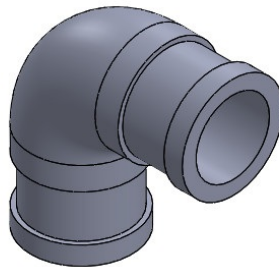
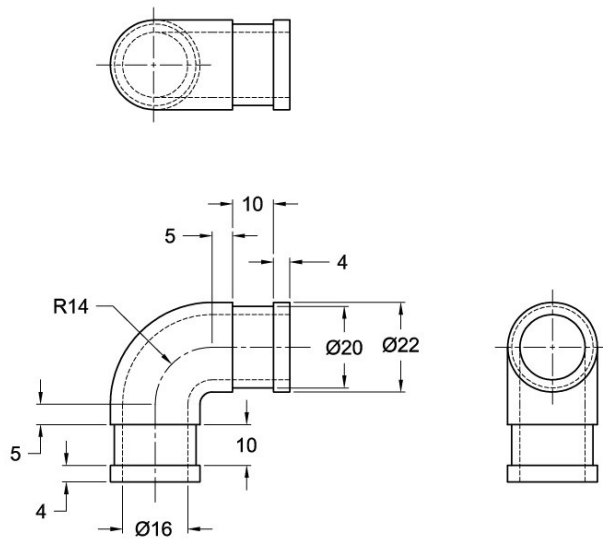


Figure 34



Exercise 18.

Create the 3D model shown in Figure 35. Different views of the model and dimensions are shown in Figure 36. All dimensions are in mm. [Expected time: 35 min]

Figure 35

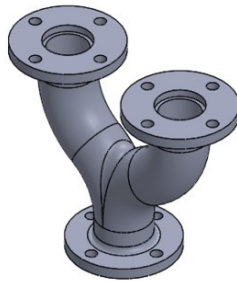
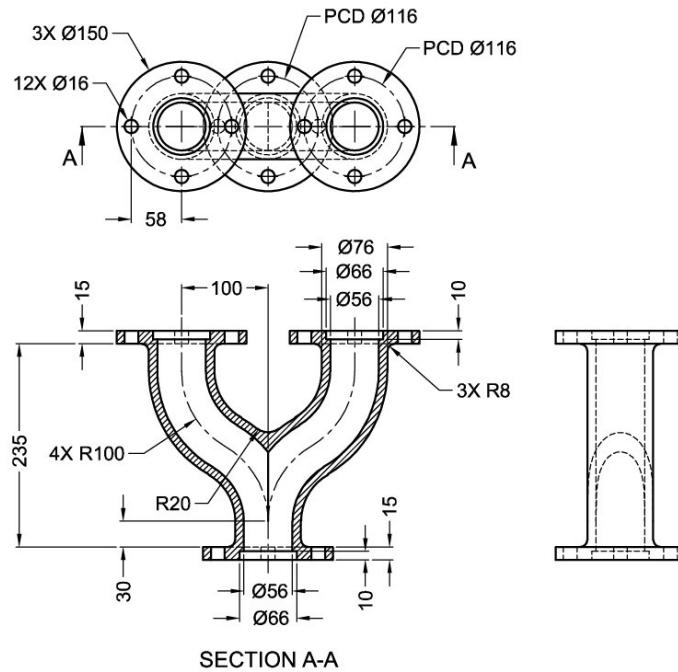


Figure 36



Exercise 19.

Create the 3D model shown in Figure 37. Different views of the model and dimensions are shown in Figure 38. All dimensions are in mm. [Expected time: 35 min]

Figure 37

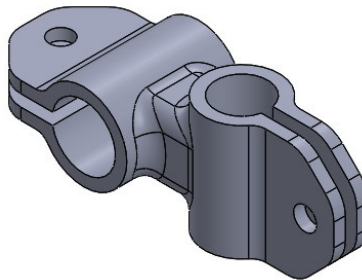
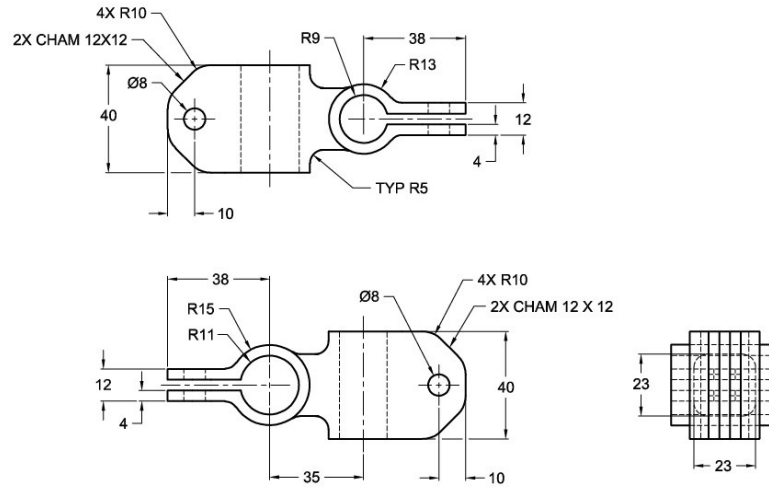


Figure 38



Exercise 20.

Create the 3D model shown in Figure 39. Different views of the model and dimensions are shown in Figure 40. All dimensions are in mm. [Expected time: 30 min]

Figure 39

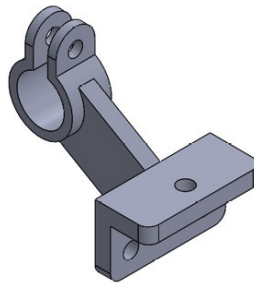
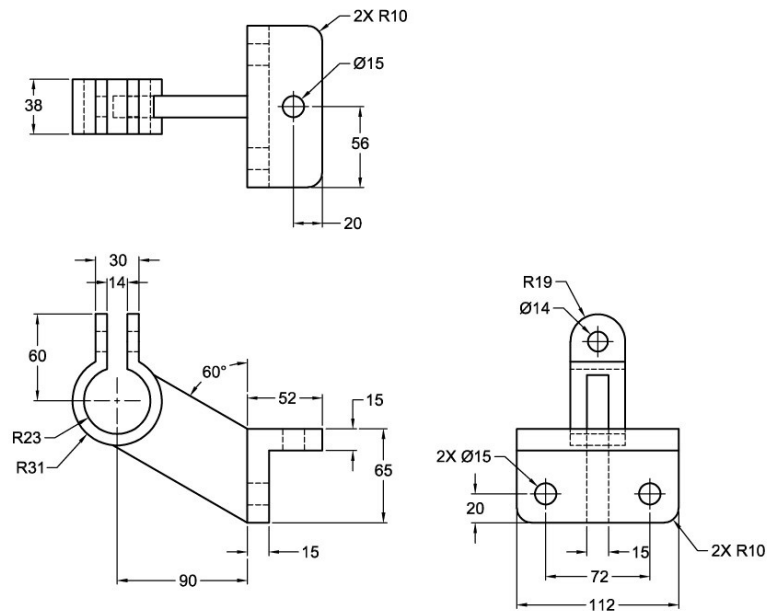


Figure 40



Exercise 21.

Create the 3D model shown in Figure 41. Different views of the model and dimensions are shown in Figure 42. All dimensions are in mm. [Expected time: 30 min]

Figure 41

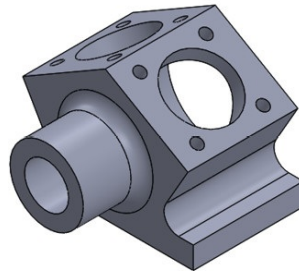
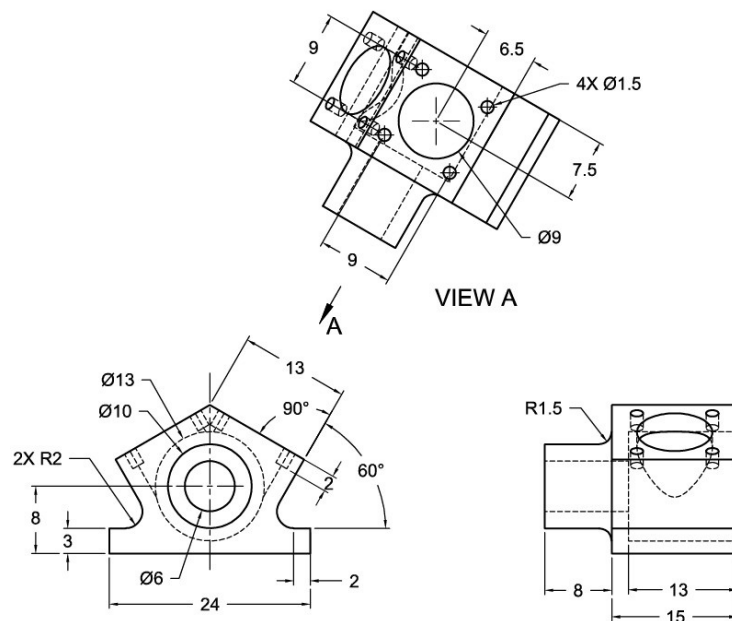


Figure 42



Exercise 22.

Create the 3D model shown in Figure 43. Different views of the model and dimensions are shown in Figure 44. All dimensions are in mm. [Expected time: 30 min]

Figure 43

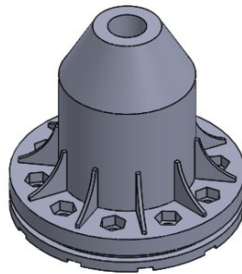
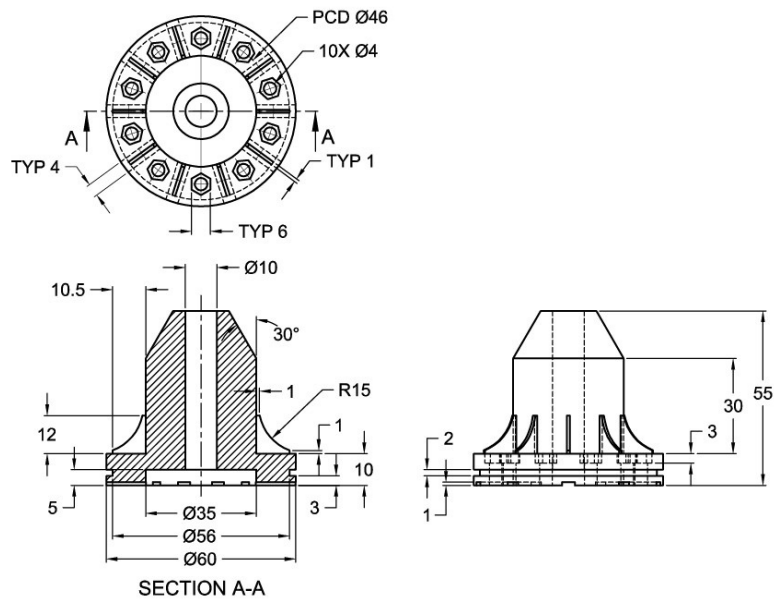


Figure 44



Exercise 23.

Create the 3D model shown in Figure 45. Different views of the model and dimensions are shown in Figure 46. All dimensions are in mm. [Expected time: 30 min]

Figure 45

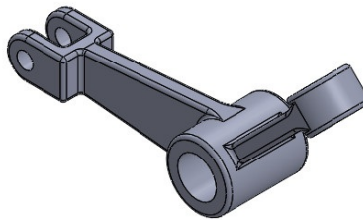
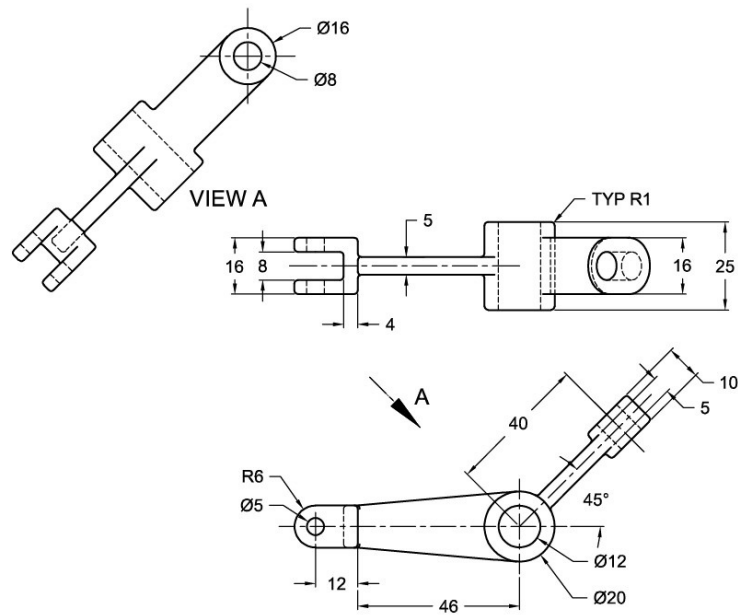


Figure 46



Exercise 24.

Create the 3D model shown in Figure 47. Different views of the model and dimensions are shown in Figure 48. All dimensions are in mm. [Expected time: 30 min]

Figure 47

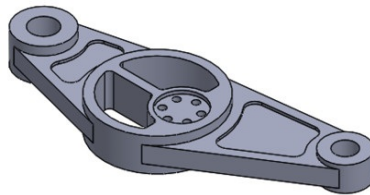
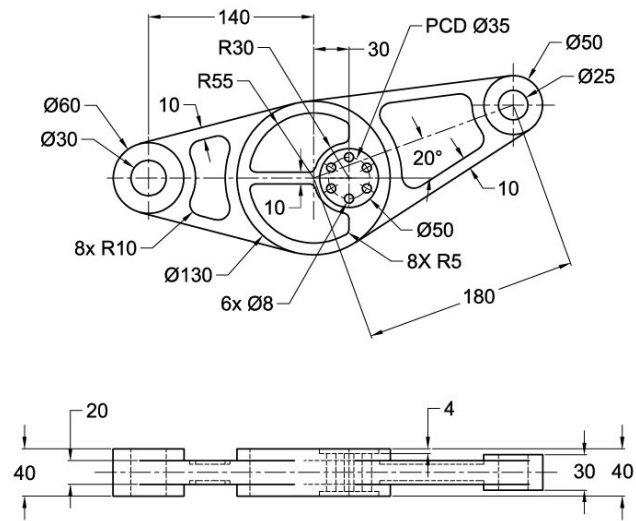


Figure 48



Exercise 25.

Create the 3D model shown in Figure 49. Different views of the model and dimensions are shown in Figure 50. All dimensions are in mm. [Expected time: 30 min]

Figure 49

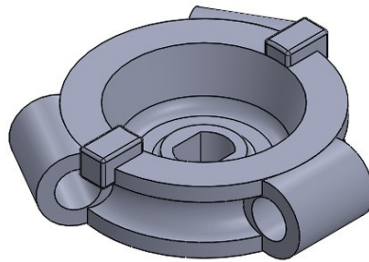
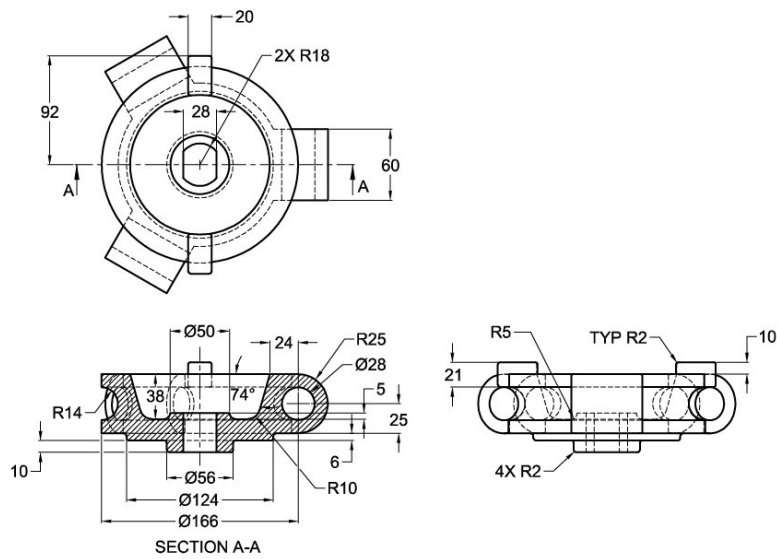


Figure 50



Exercise 26.

Create the 3D model shown in Figure 51. Different views of the model and dimensions are shown in Figure 52. All dimensions are in mm. [Expected time: 25 min]

Figure 51

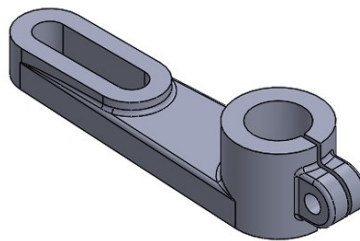
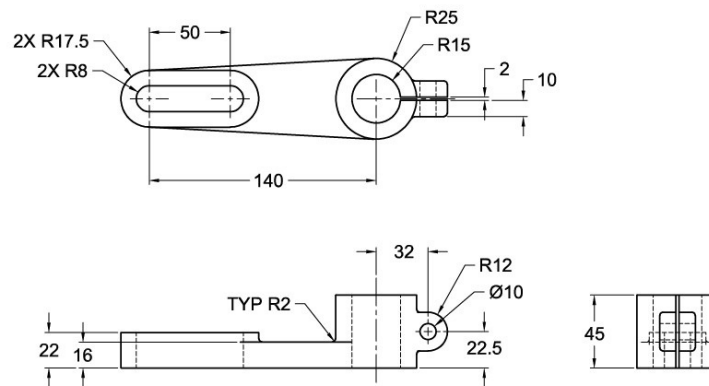


Figure 52



Exercise 27.

Create the 3D model shown in Figure 53. Different views of the model and dimensions are shown in Figure 54. All dimensions are in mm. [Expected time: 25 min]

Figure 53

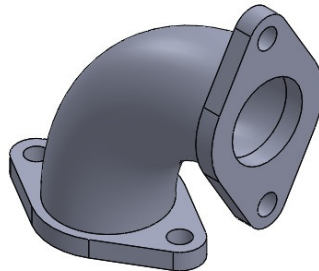
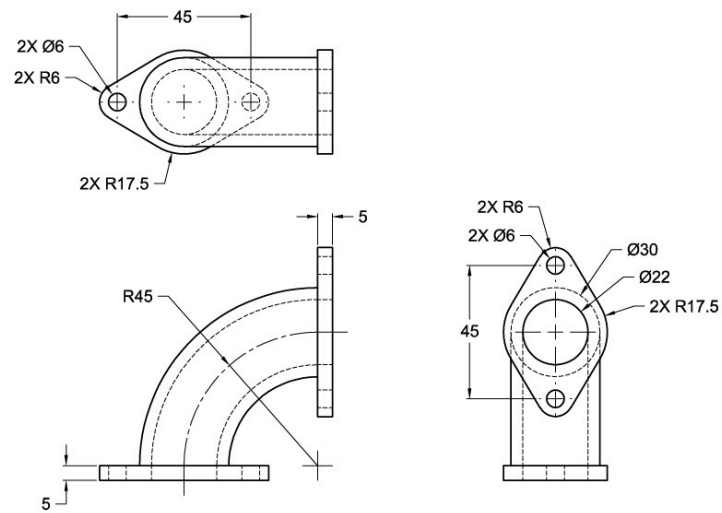


Figure 54



Exercise 28.

Create the 3D model shown in Figure 55. Different views of the model and dimensions are shown in Figure 56. All dimensions are in mm. [Expected time: 30 min]

Figure 55

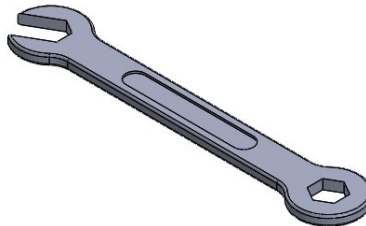
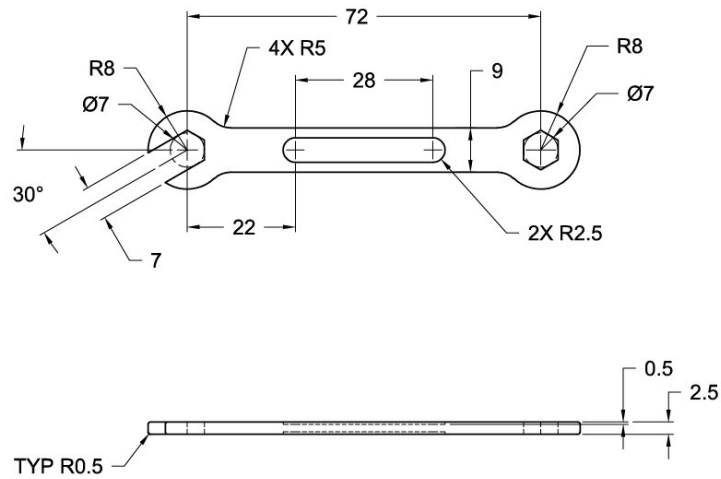


Figure 56



Exercise 29.

Create the 3D model shown in Figure 57. Different views of the model and dimensions are shown in Figure 58. All dimensions are in mm. [Expected time: 25 min]

Figure 57

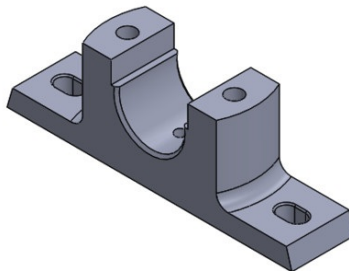
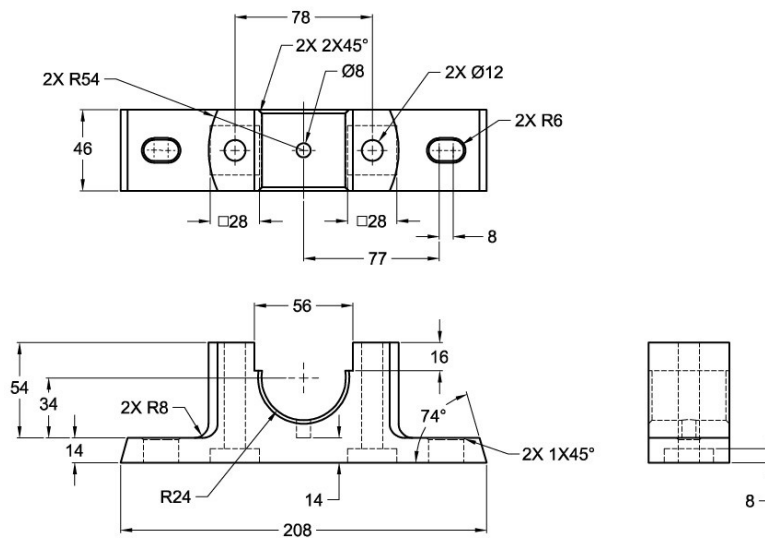


Figure 58



Exercise 30.

Create the 3D model shown in Figure 59. Different views of the model and dimensions are shown in Figure 60. All dimensions are in mm. [Expected time: 40 min]

Figure 59

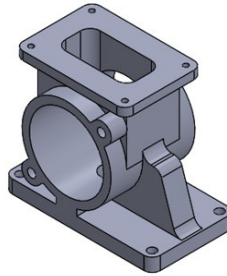
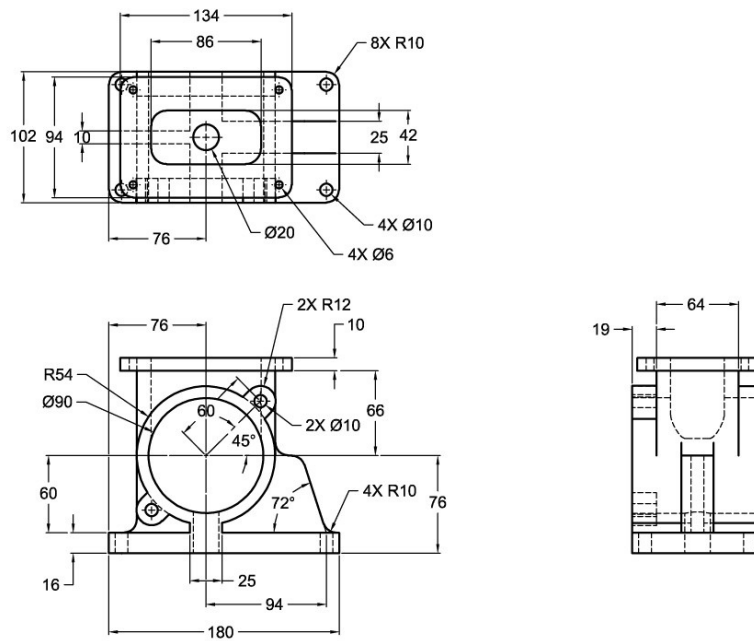


Figure 60



Exercise 31.

Create the 3D model shown in Figure 61. Different views of the model and dimensions are shown in Figure 62. All dimensions are in mm. [Expected time: 30 min]

Figure 61

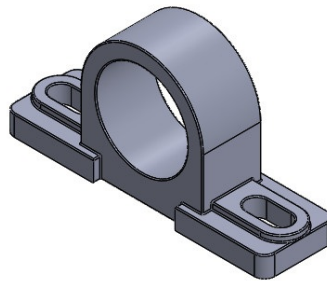
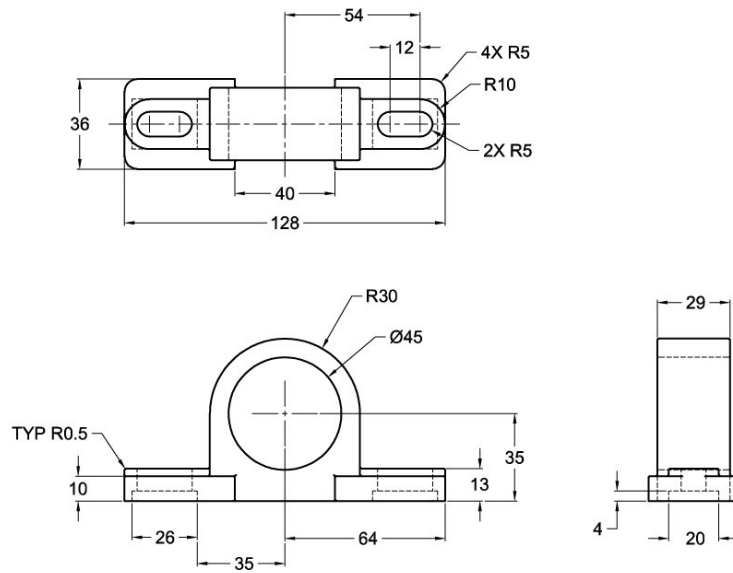


Figure 62



Exercise 32.

Create the 3D model shown in Figure 63. Different views of the model and dimensions are shown in Figure 64. All dimensions are in mm. [Expected time: 30 min]

Figure 63

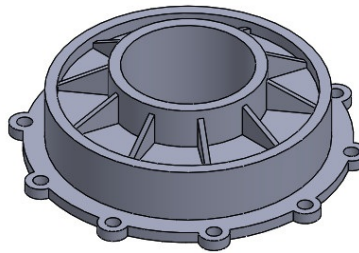
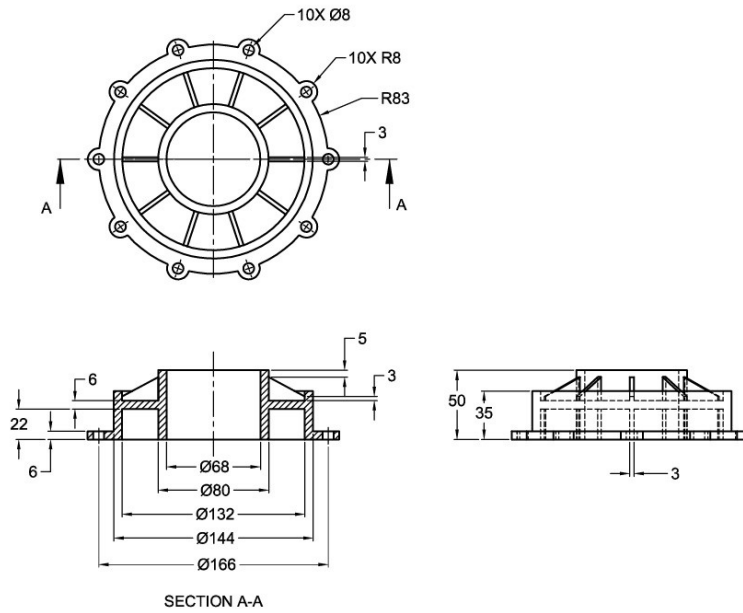


Figure 64



Exercise 33.

Create the 3D model shown in Figure 65. Different views of the model and dimensions are shown in Figure 66. All dimensions are in mm. [Expected time: 30 min]

Figure 65

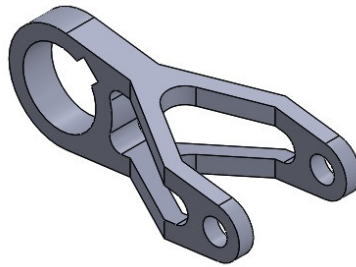
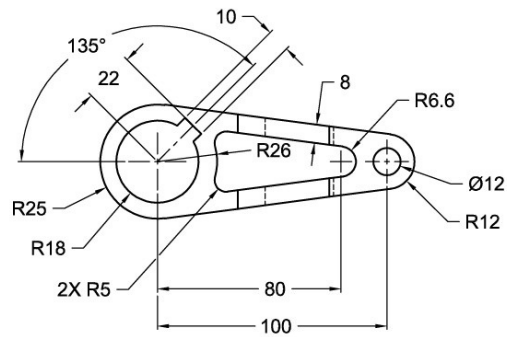
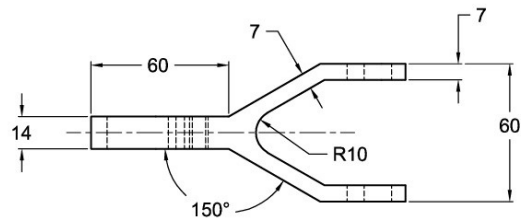


Figure 66



Exercise 34.

Create the 3D model shown in Figure 67. Different views of the model and dimensions are shown in Figure 68. All dimensions are in mm. [Expected time: 30 min]

Figure 67

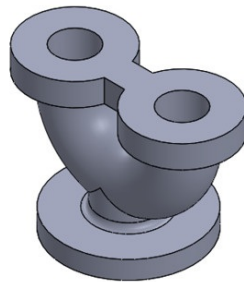
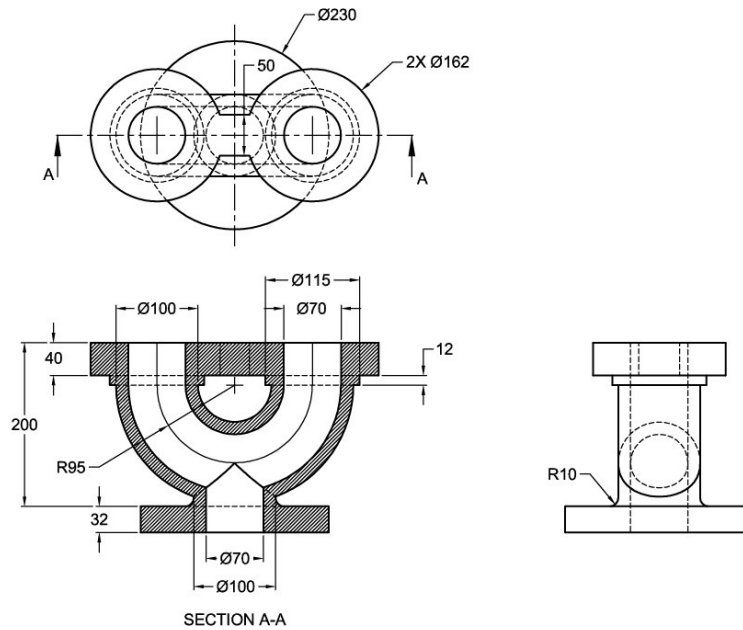


Figure 68



Exercise 35.

Create the 3D model shown in Figure 69. Different views of the model and dimensions are shown in Figure 70. All dimensions are in mm. [Expected time: 30 min]

Figure 69

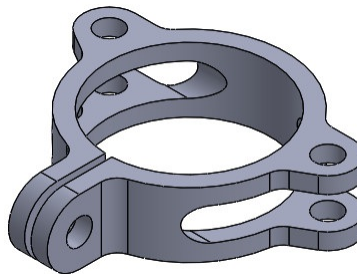
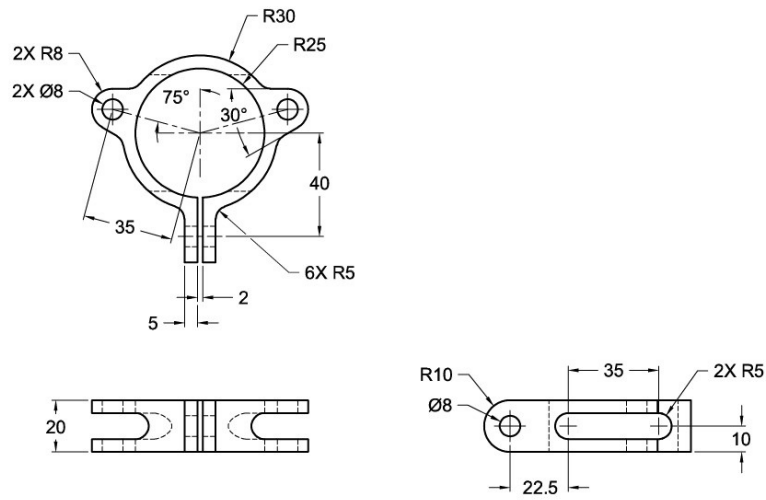


Figure 70



Exercise 36.

Create the 3D model shown in Figure 71. Different views of the model and dimensions are shown in Figure 72. All dimensions are in mm. [Expected time: 30 min]

Figure 71

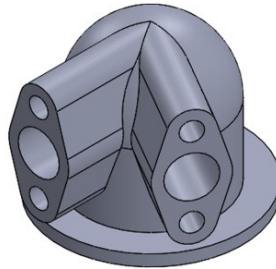
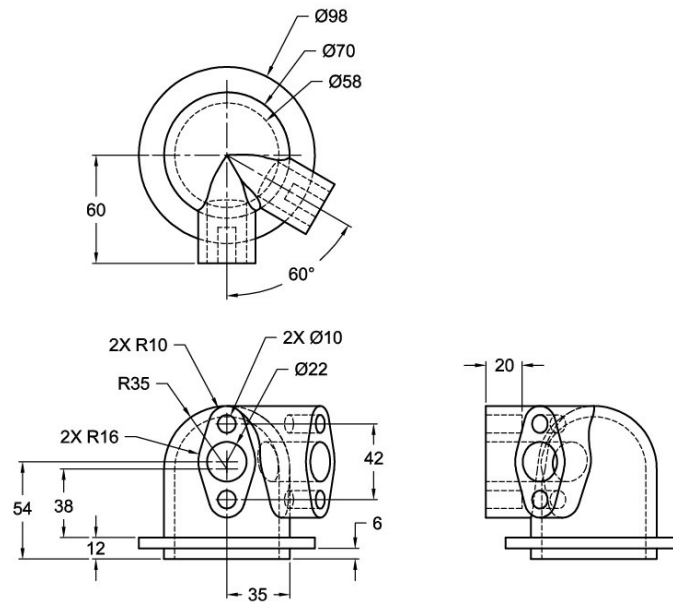


Figure 72



Exercise 37.

Create the 3D model shown in Figure 73. Different views of the model and dimensions are shown in Figure 74. All dimensions are in mm. [Expected time: 30 min]

Figure 73

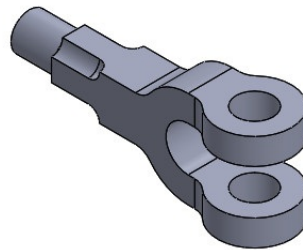
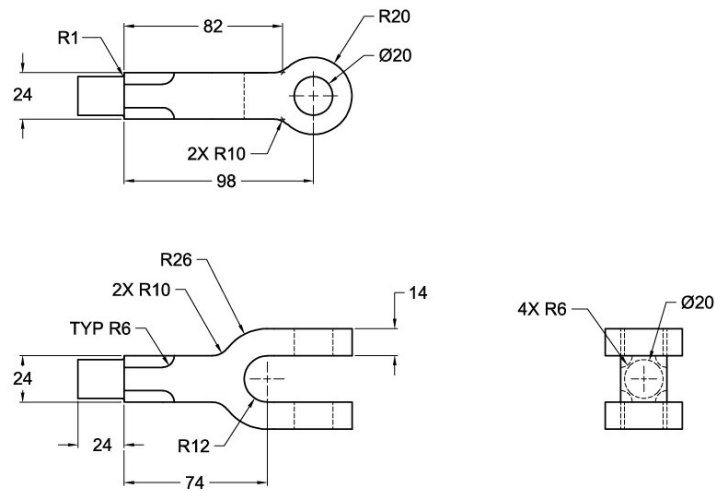


Figure 74



Exercise 38.

Create the 3D model shown in Figure 75. Different views of the model and dimensions are shown in Figure 76. All dimensions are in mm. [Expected time: 30 min]

Figure 75

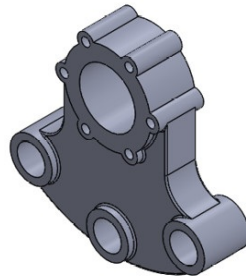
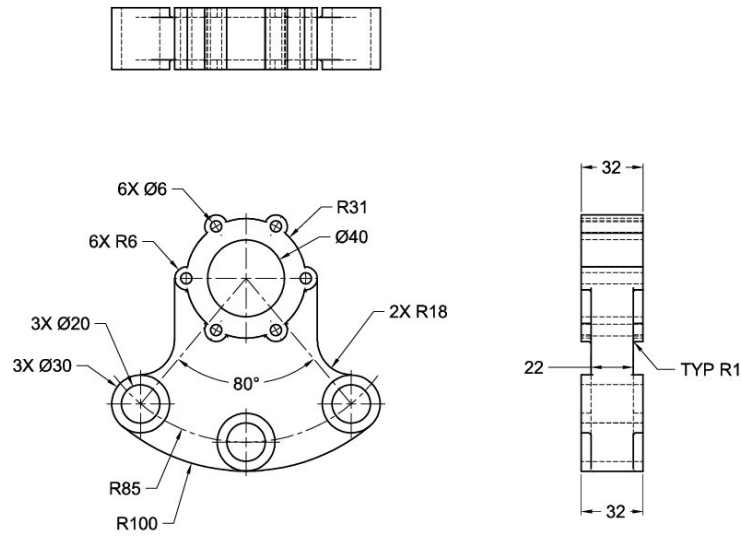


Figure 76



Exercise 39.

Create the 3D model shown in Figure 77. Different views of the model and dimensions are shown in Figure 78. All dimensions are in mm. [Expected time: 30 min]

Figure 77

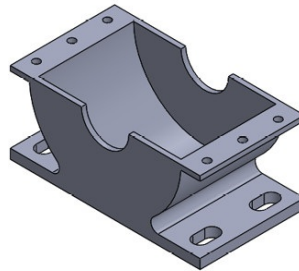


Figure 78

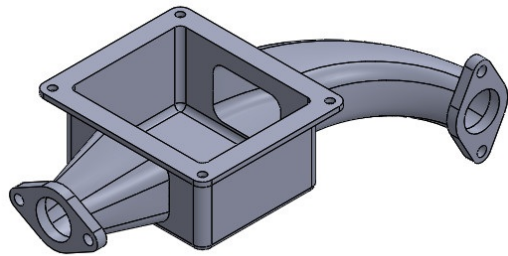
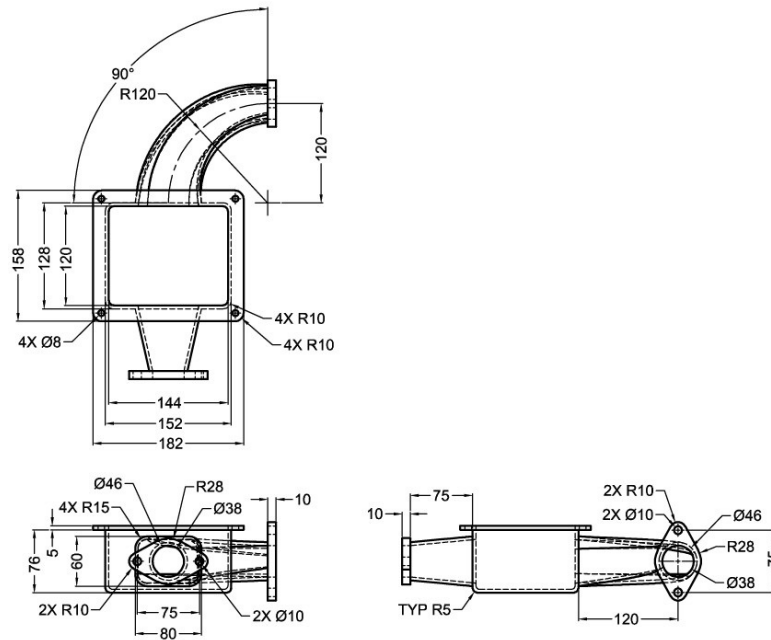


Figure 80

Create the 3D model shown in Figure 79. Different views of the model and dimensions are shown in Figure 80. All dimensions are in mm. [Expected time: 40 min]



Exercise 41.

Create the 3D model shown in Figure 81. Different views of the model and dimensions are shown in Figure 82. All dimensions are in mm. [Expected time: 30 min]

Figure 81

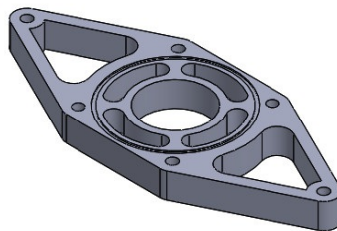
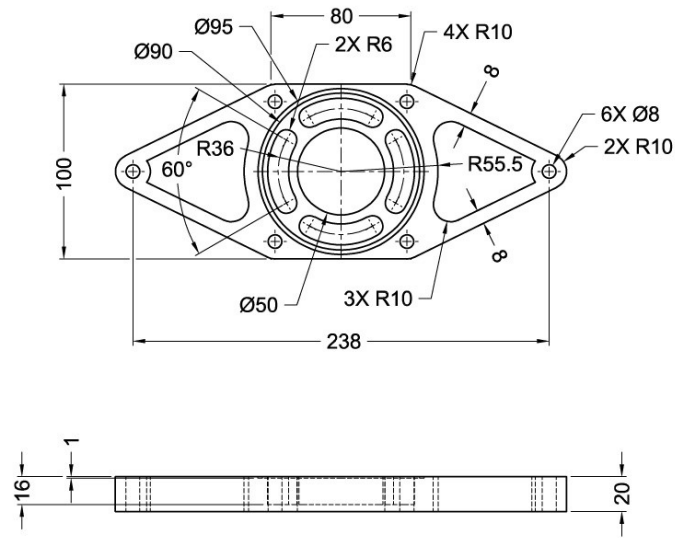


Figure 82



Exercise 42.

Create the 3D model shown in Figure 83. Different views of the model and dimensions are shown in Figure 84. All dimensions are in mm. [Expected time: 30 min]

Figure 83

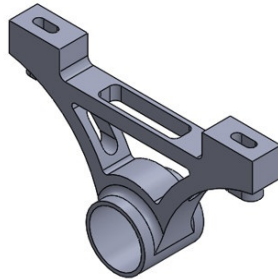
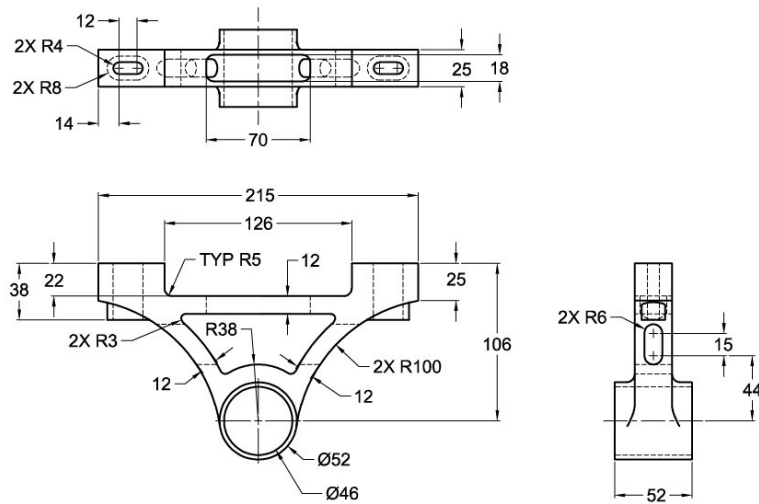


Figure 84



Exercise 43.

Create the 3D model shown in Figure 85. Different views of the model and dimensions are shown in Figure 86. All dimensions are in mm. [Expected time: 30 min]

Figure 85

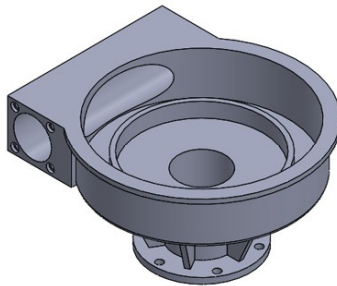
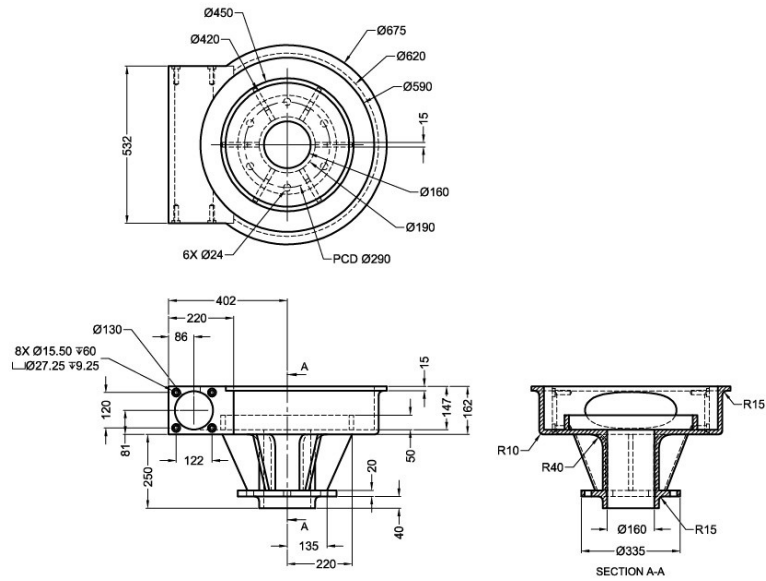


Figure 86



Exercise 44.

Create the 3D model shown in Figure 87. Different views of the model and dimensions are shown in Figure 88. All dimensions are in mm. [Expected time: 25 min]

Figure 87

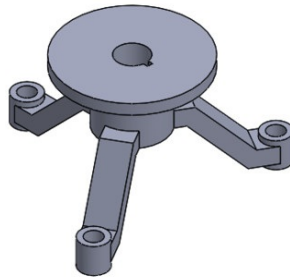
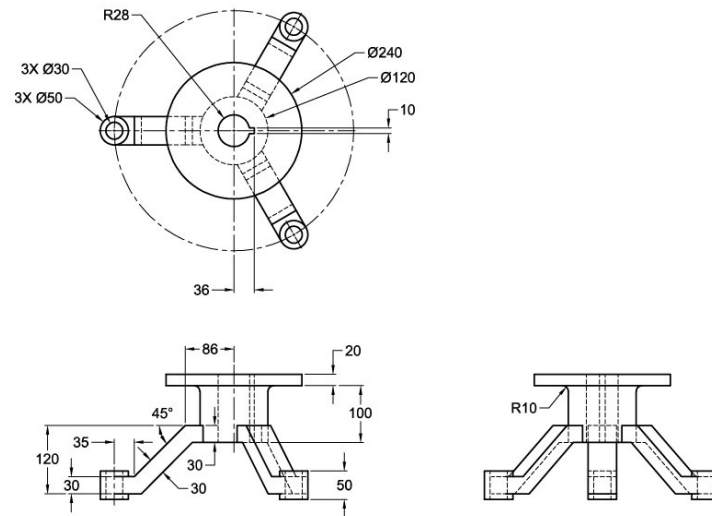


Figure 88



Exercise 45.

Create the 3D model shown in Figure 89. Different views of the model and dimensions are shown in Figure 90. All dimensions are in mm. [Expected time: 30 min]

Figure 89

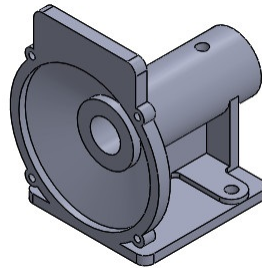
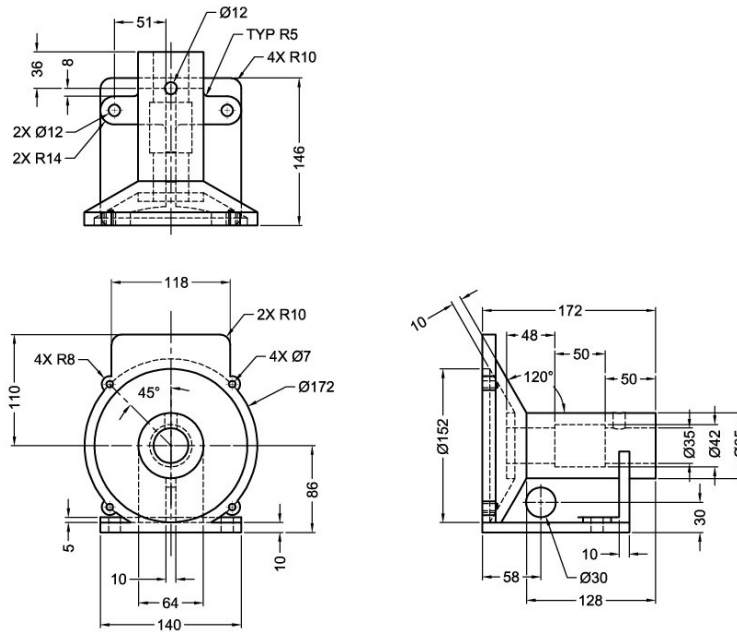


Figure 90



Exercise 46.

Create the 3D model shown in Figure 91. Different views of the model and dimensions are shown in Figure 92. All dimensions are in mm. [Expected time: 40 min]

Figure 91

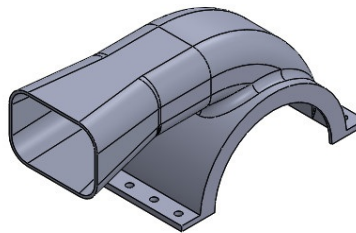
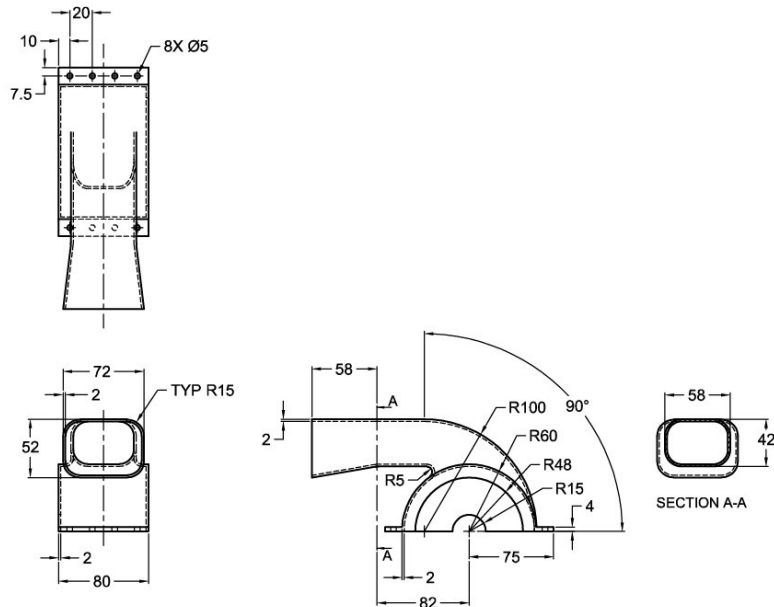


Figure 92



Exercise 47.

Create the 3D model shown in Figure 93. Different views of the model and dimensions are shown in Figure 94. All dimensions are in mm. [Expected time: 35 min]

Figure 93

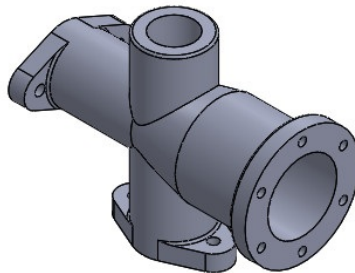
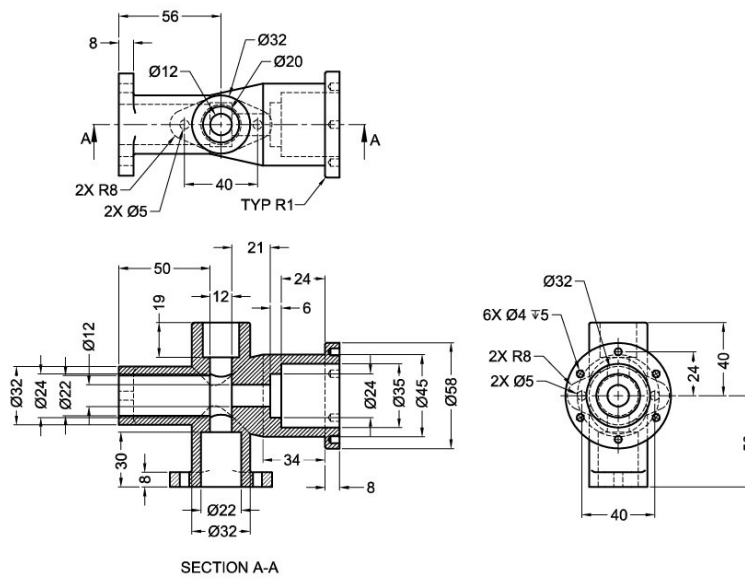


Figure 94



Exercise 48.

Create the 3D model shown in Figure 95. Different views of the model and dimensions are shown in Figure 96. All dimensions are in mm. [Expected time: 30 min]

Figure 95

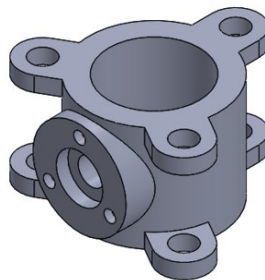
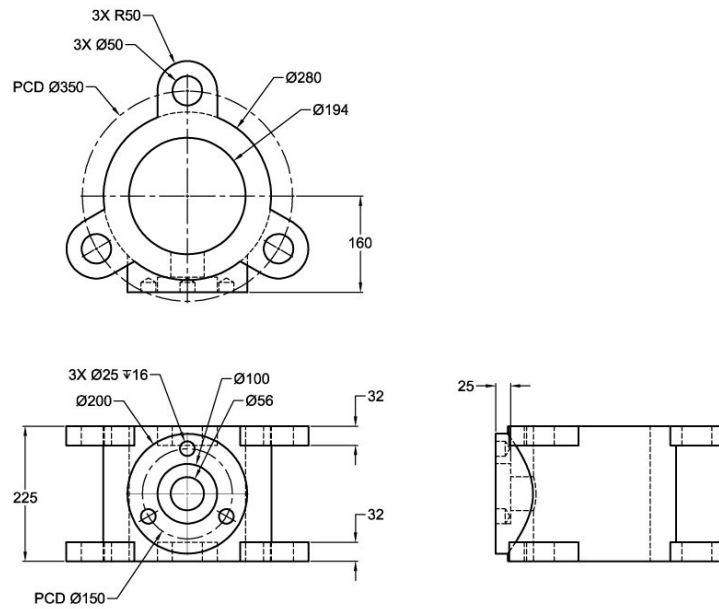


Figure 96



Exercise 49.

Create the assembly shown in Figure 97. The exploded view of the assembly is shown in Figure 98. Different views of the individual components of the assembly and dimensions are shown in Figures 99 and 100. All dimensions are in mm. [Expected time: 1 hr. 20 min]

Figure 97

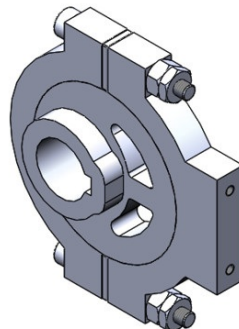


Figure 98

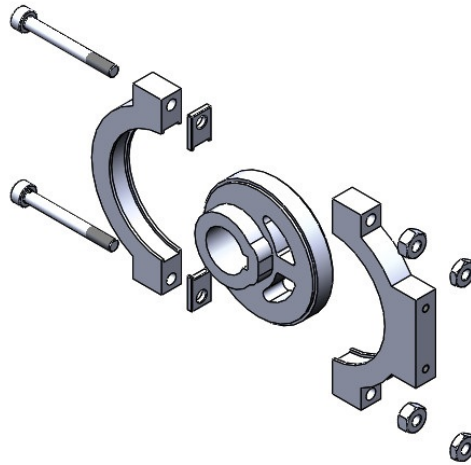


Figure 99

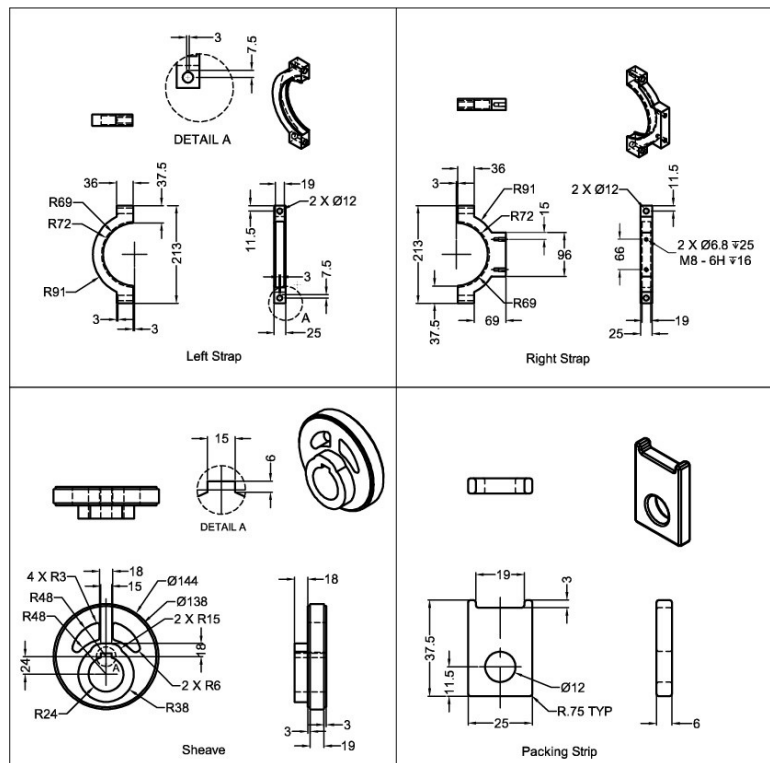
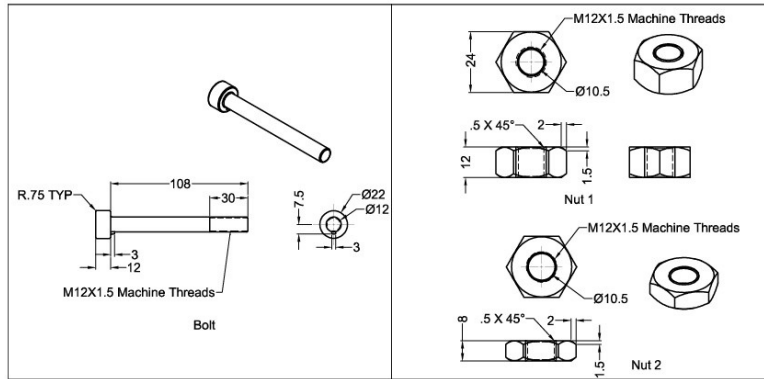


Figure 100



Exercise 50.

Create the assembly shown in Figure 101. The exploded view of the assembly is shown in Figure 102. Different views of the individual components of the assembly and dimensions are shown in Figures 103 and 104. All dimensions are in mm. [Expected time: 1 hr. 20 min]

Figure 101

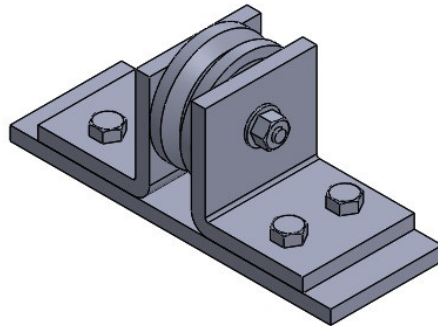


Figure 102

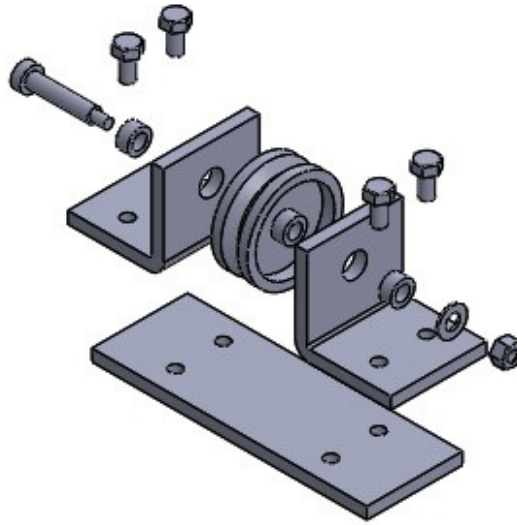


Figure 103

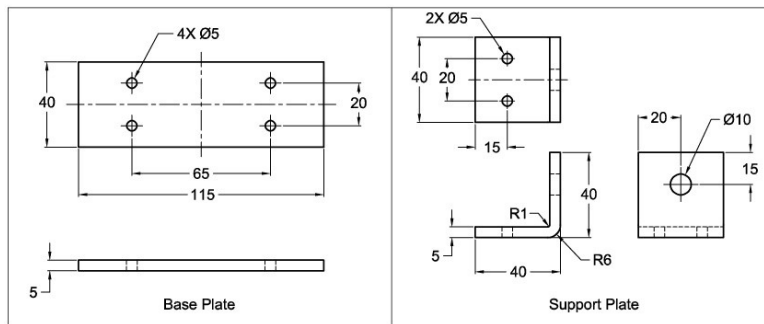


Figure 104

