

Autodesk Fusion 360

Practice Book^{Beta} For Engineers and Technicians

25 CAD drawings

Arranged in the order of complexity



Preface

“Practice makes everyone perfect”.

This book covers exercises to learn the tools in Fusion 360 from an Engineer’s point of view. Understanding engineering drawings gives an edge to how well you can design given the dimensional constraints.

Creativity is unarguably the best way to learn tools. But, many of us as engineers and technicians, must deal with using legacy data, modifying existing products and reverse engineering things. All of this involves designing from blueprints. Also, if you have created your product, it is important that you bring it in the form of a drawing which your manufacturer or future designers understand (of course, when you are not going to 3d print it).

I learnt Fusion 360 by designing things around me, a juicer, pencil, spectacles, toys, chairs...you name it. But, when I started working on real time projects of clients, I understood that knowing about engineering drawings has been my savior. I realized that many future designers will actually be working on existing products.

Though this book has the drawings in the order of complexity for anyone learning CAD, the focus while designing and arranging exercises was laid keeping in mind the tools in Fusion 360.

My upcoming course will help students and designers not only understand sketching using drawings, but also drawings using Fusion 360.

Though I was confident about the usage of sketch tools in Fusion 360, constraining entities based on given data of a drawing sheet felt like a challenge. I explored many exercises online and even purchased 100 CAD exercise books. Honestly, this learning journey was not as interesting as creating concept designs of real world components surrounding me. But, this knowledge separates an engineer from a hobbyist.

Learning through this book can probably be compared to learning Classical music or an instrument before becoming a stage, pop or playback singer. When the fundamentals are strong(though not very fancy to learn), they lay a strong foundation for future work.

Hope this book helps you in achieving new heights as a product designer.

About Me

I am Sirisha Shashikanth, a passionate mechanical engineer, online trainer for Autodesk Fusion 360 and a product designer. It gives me immense pleasure to present this book to students learning Fusion 360.

I completed my Masters in Production Engineering from PSG College of Technology in 2003. After a brief career of 3 years in the CAD field, I decided to be a stay at home mother. In 2018, when I started pursuing my passion again, I came across Autodesk Fusion 360 software.

I found it easy to learn and started working in the field of Product designing.

I have always worked from home.

I have been a speaker at Fusion 360 Academy 2020 organized in Bangalore. I have also been a part of Autodesk Fusion 360 webinar series.

My work

Mechatheart.com (Focusses on Online Fusion 360 training and my Product Design work)

Designsangam.com (Collaboration platform for all the people who are involved in the field of new product inventions)

I would like to contribute towards inventions that make everyone's life easy and peaceful³

My Work



I work on new product design projects and help others bring their ideas to virtual form.

I teach Fusion 360 for free on my Youtube Channel.

<https://www.youtube.com/mechatheart>

I have two courses on mechatheart.com worth just \$7

<https://mechatheart.com/courses/learn-fusion-360-from-scratch/>

<https://mechatheart.com/courses/a-drop-of-love/>

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Mechatheart.com

Designsangam.com



Note:

Please assume missing dimensions. Please bring them to my notice, so that I can rectify them in my next edition of the book

Credits:

Pixabay.com : Clker-Free-Vector-Images, OpenClipart-Vectors, janjf93, openclipart-vectors-30363, b0red, lethutrang101

<https://www.pngkey.com/>

<https://quotes.thefamouspeople.com/>

<https://inspiremykids.com/>

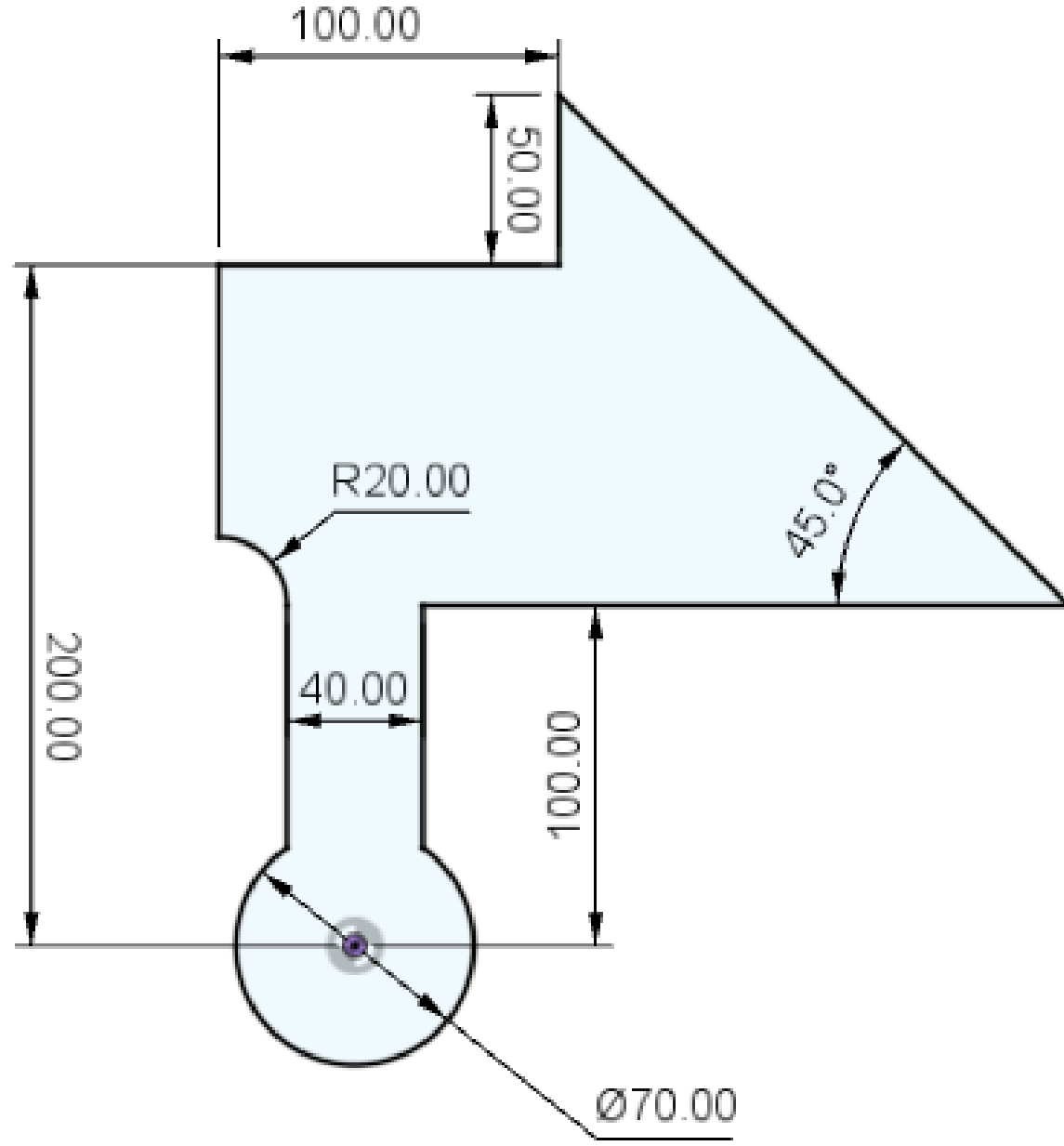
<https://smallbiztrends.com/>

<https://www.theeducationmagazine.com/>

<https://www.wow4u.com/>

Purpose and Disclaimer

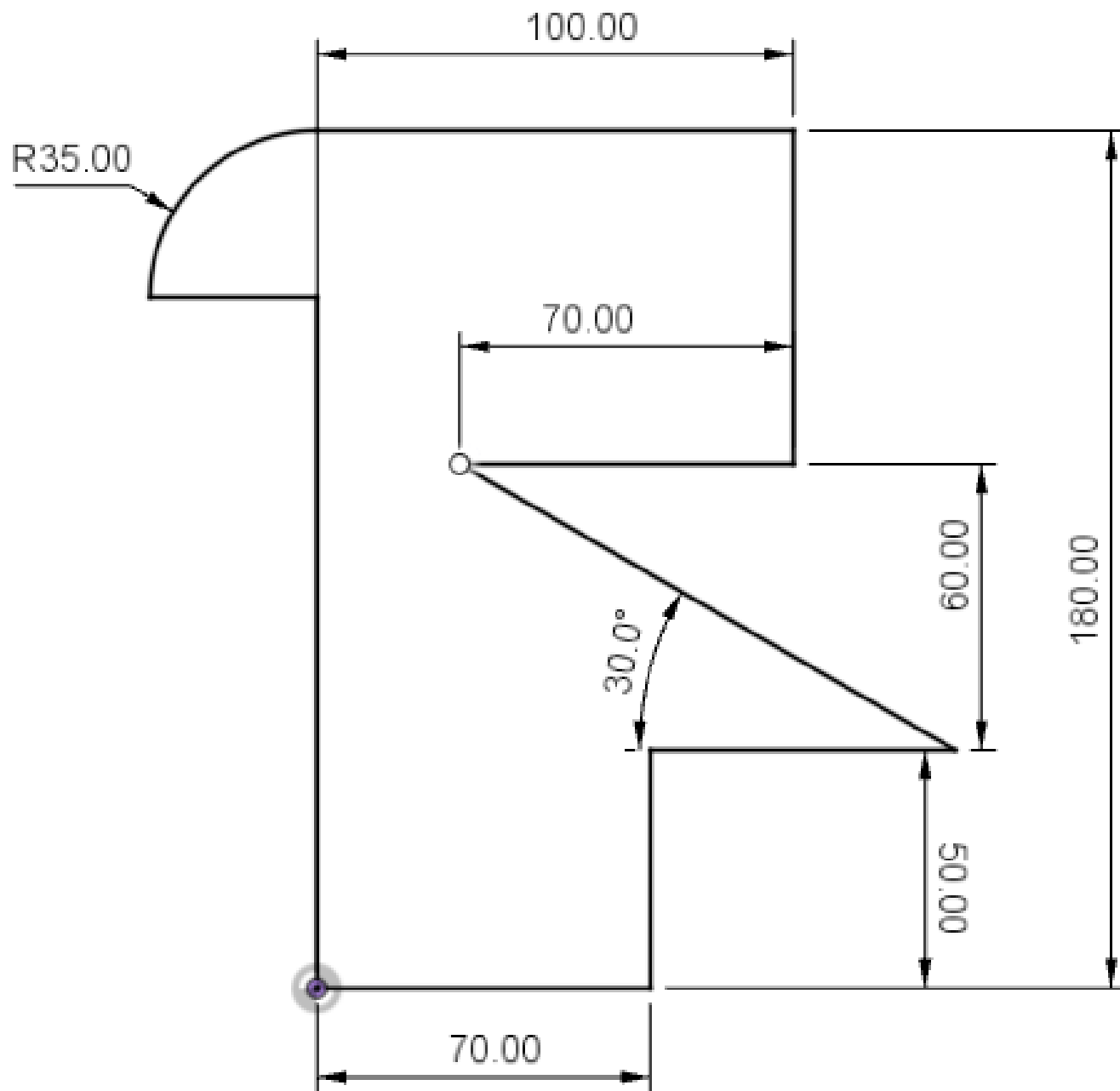
The whole idea of the book is to contribute towards getting more practise. Errors can be pointed out, which will be corrected in next revisions of the book. This book however is in no means similar to a machine drawing book as the dimensioning rules have not been completely followed. The location of isometric view has been changed in some cases to keep the best view for reference. Drawings are not to correct scale. Dimensions are not original product measurements. These models made in any software are in no means manufacturable. They have not been simulated in any software and were never 3d printed. The book aims at making the exercises advance in a way that the users learn different tools in Fusion 360 by following engineering drawings. No drawing has been copied from any other source. They have been created for a course to explain Fusion 360 tools through blueprints. Any suggestions and feedback is welcome and can be mailed to mechatheart@gmail.com.

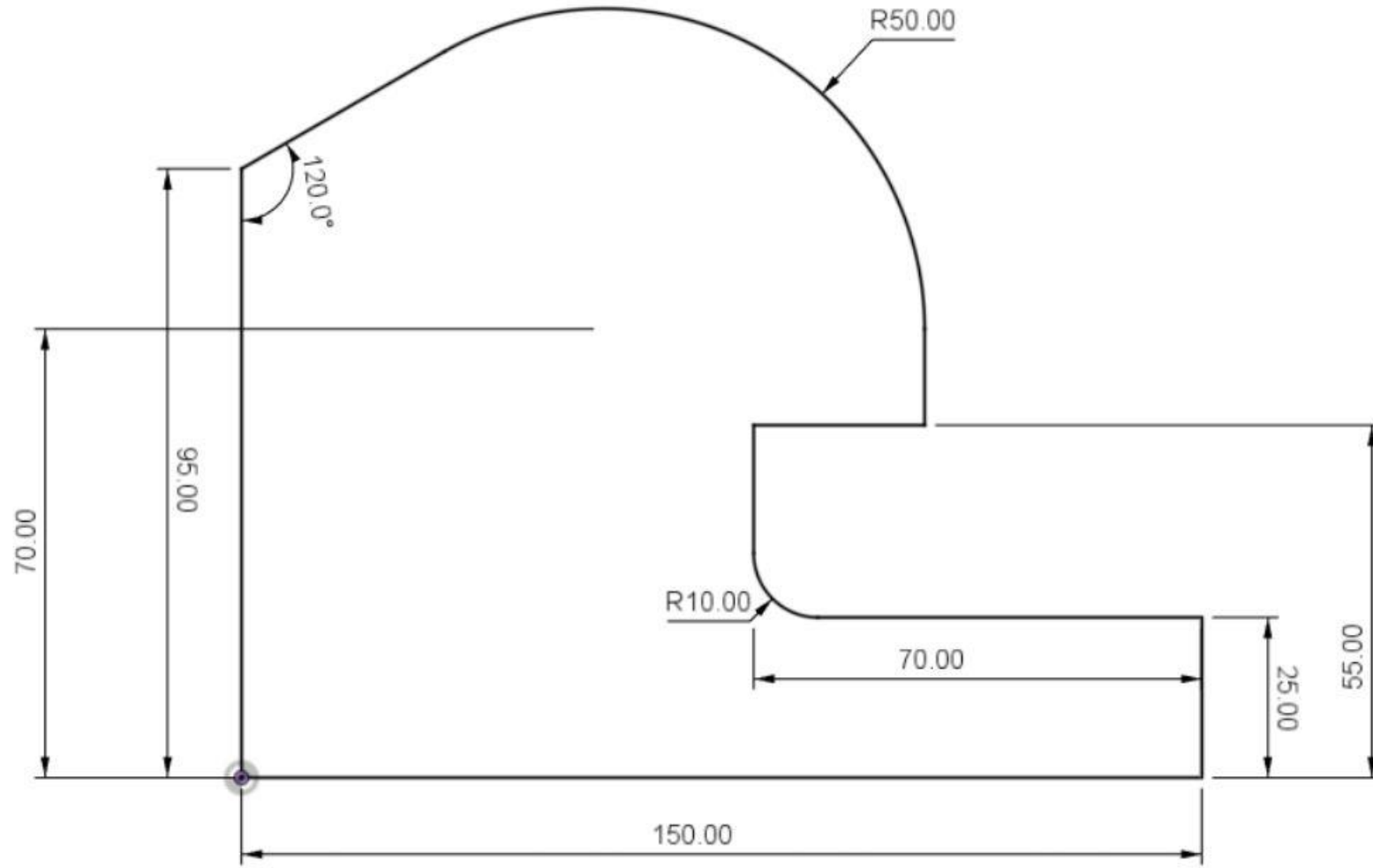


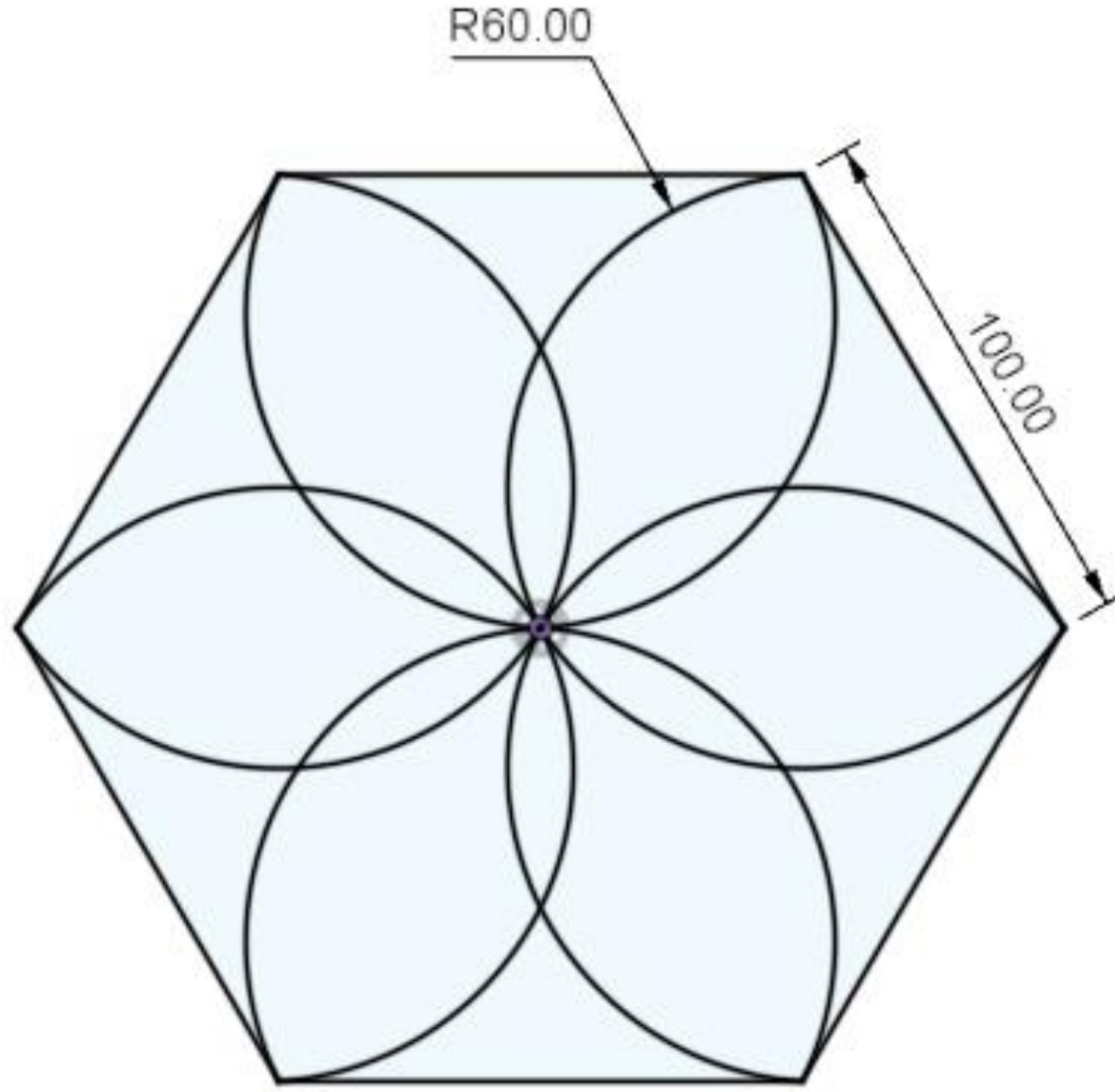
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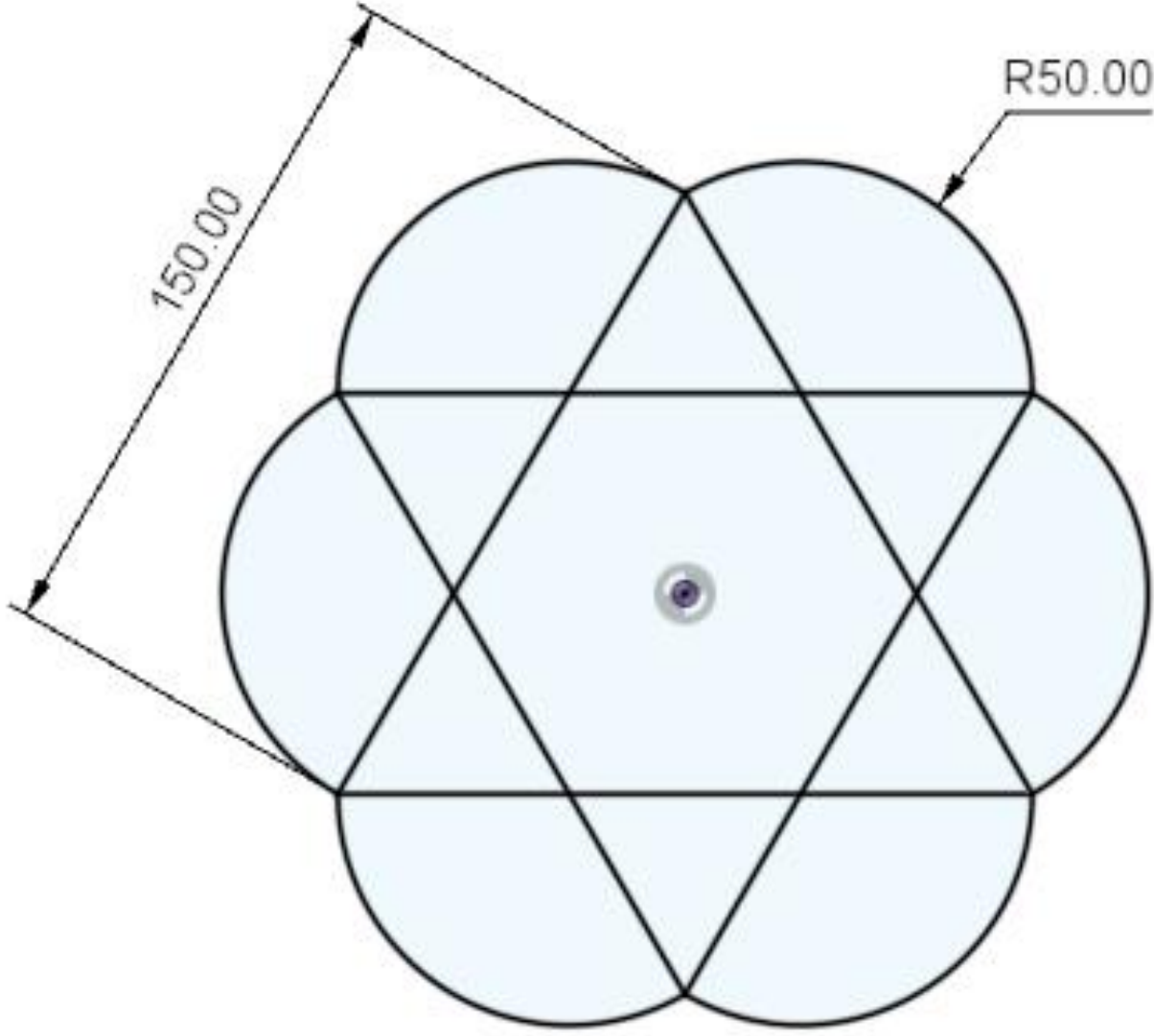
*The secret of getting ahead is getting started. The secret of getting started
 ∞ is breaking your complex overwhelming tasks into small manageable
 tasks, and then starting on the first one."*

Mark Twain

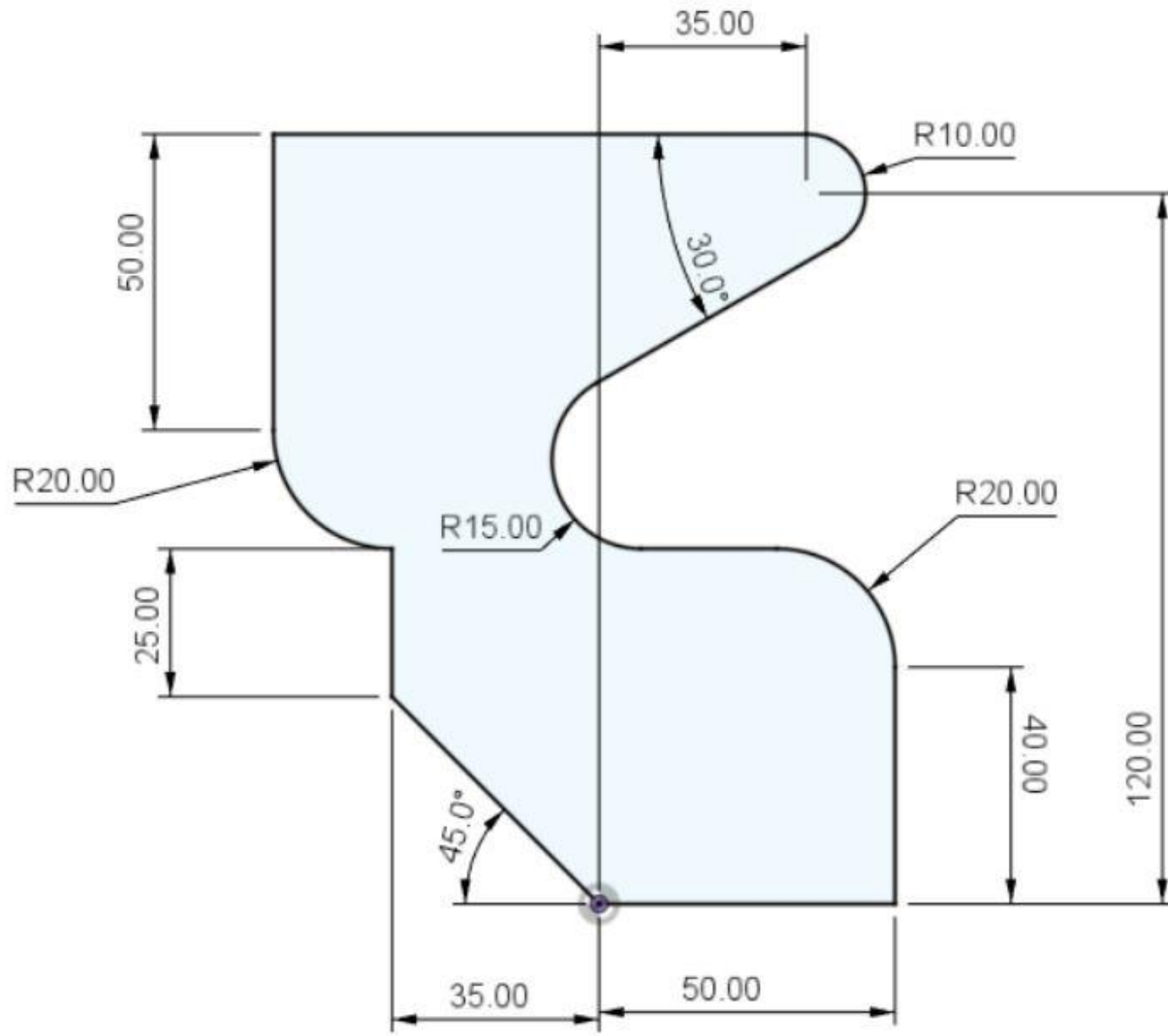


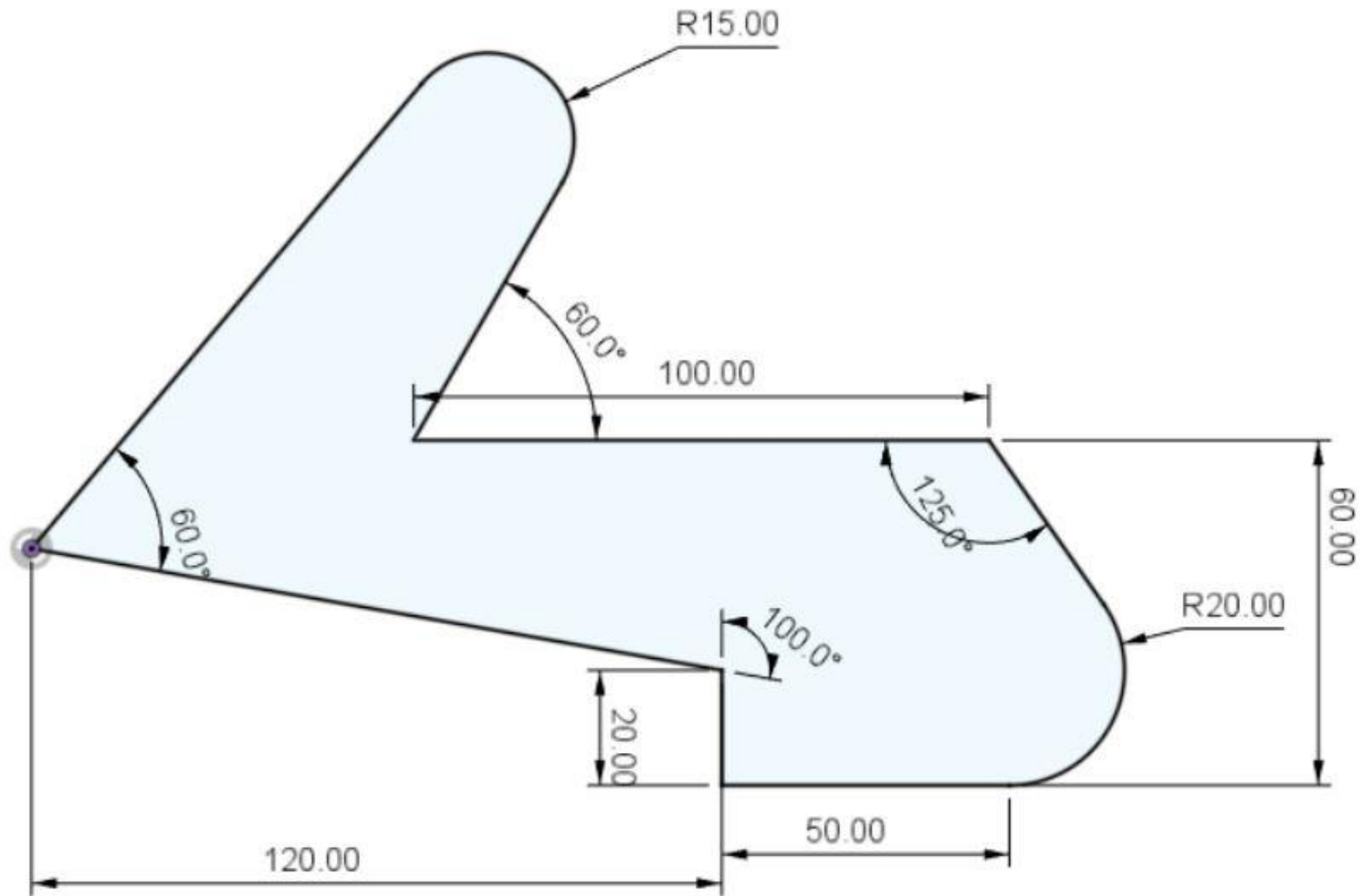


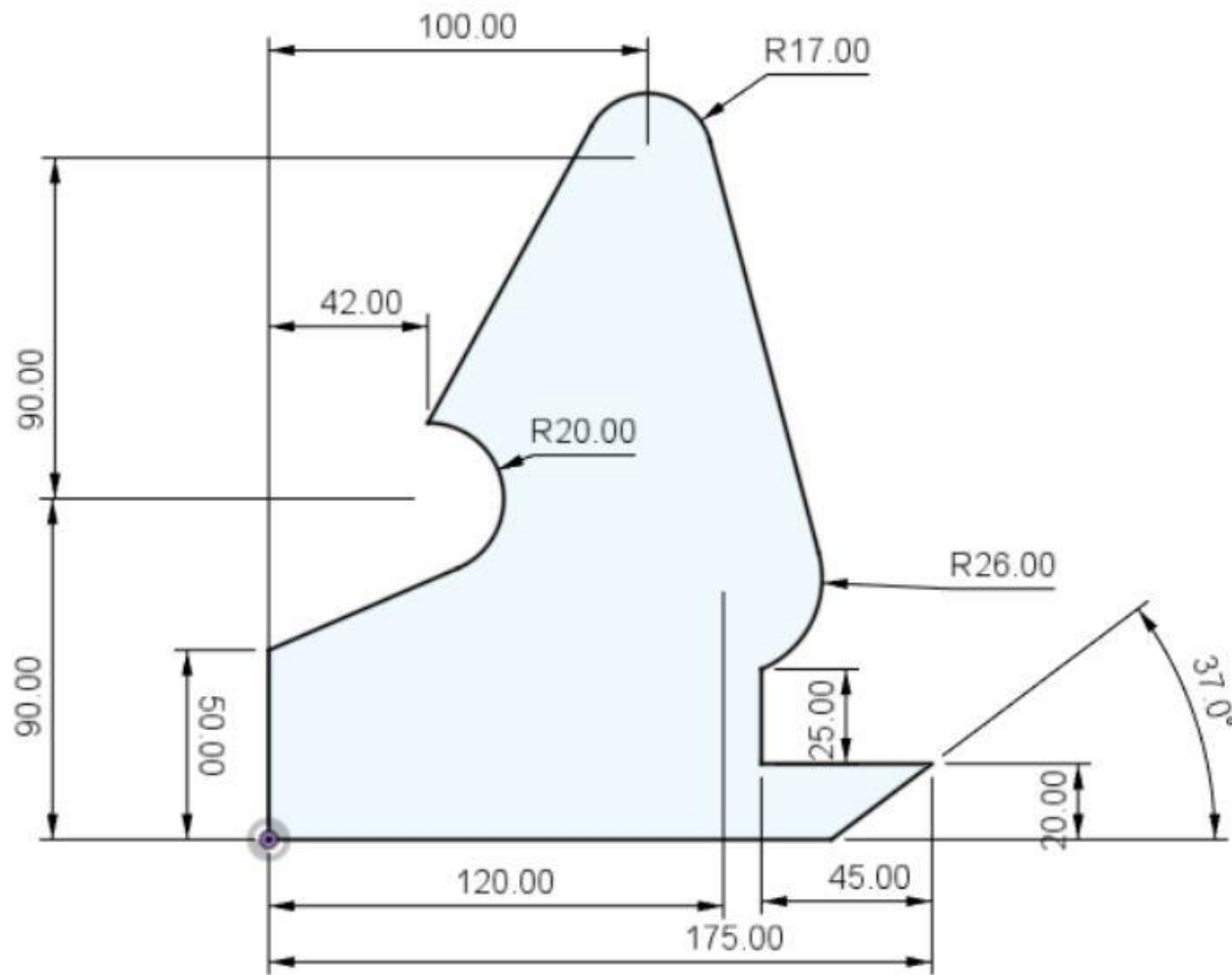


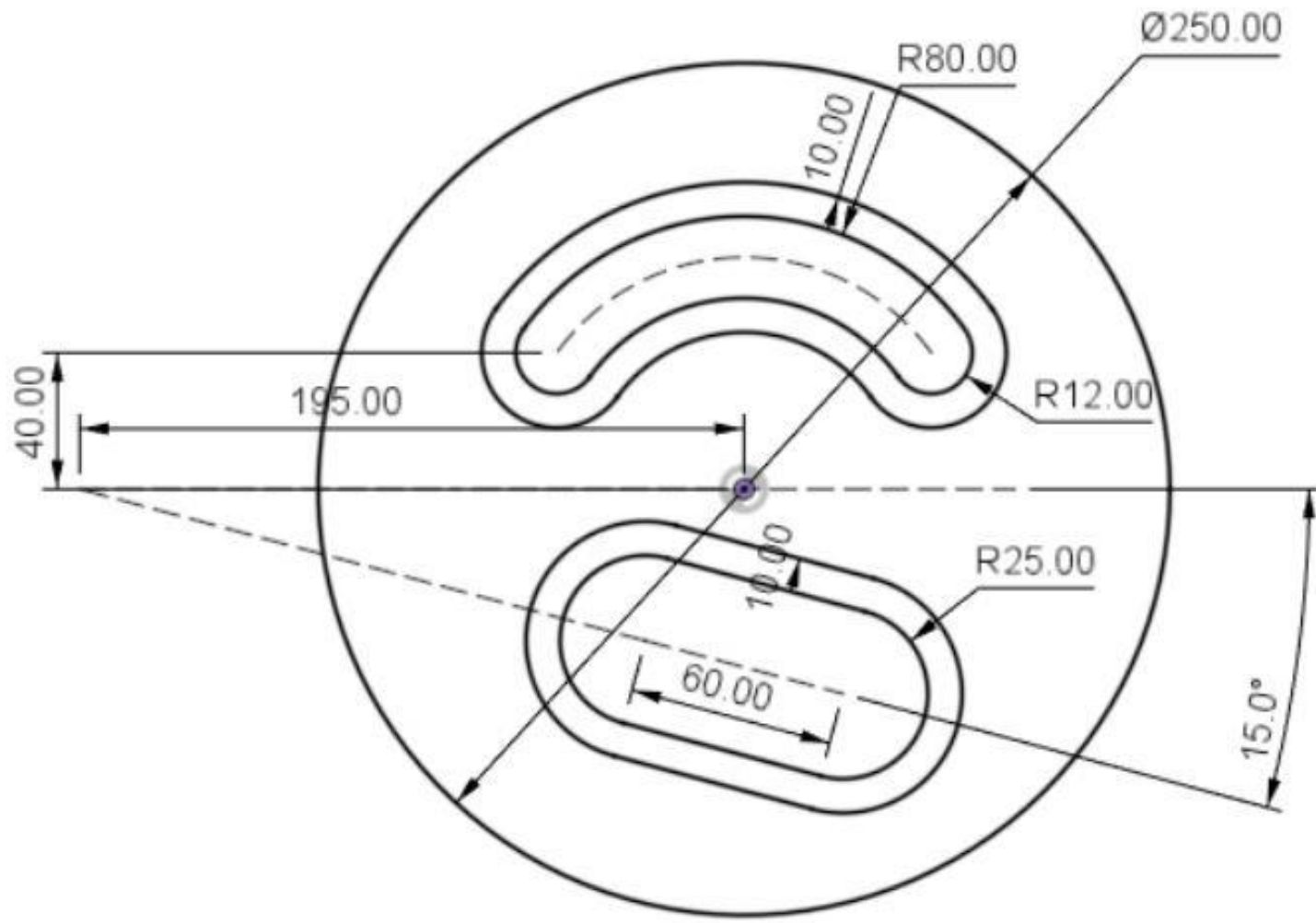


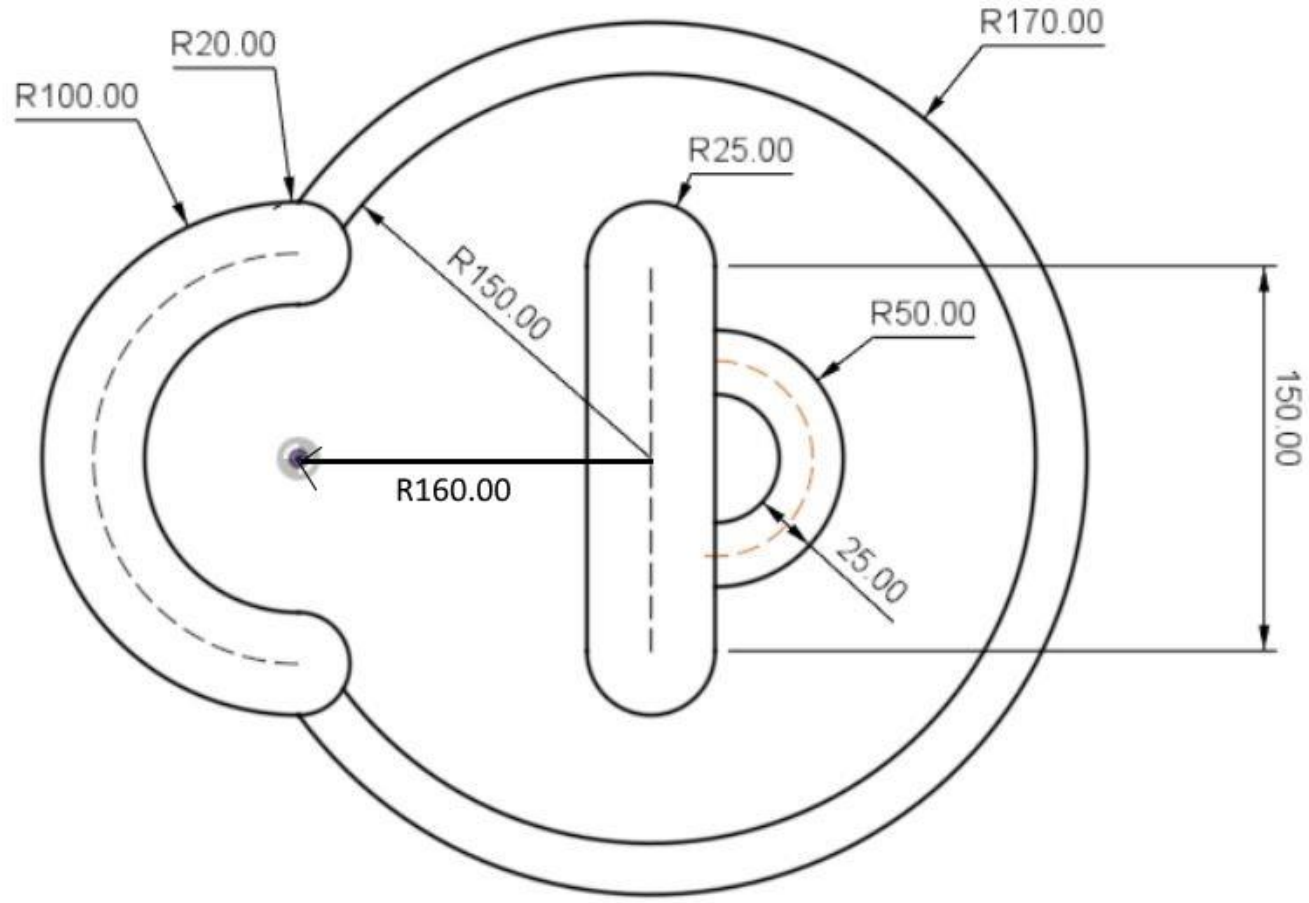
You can dramatically improve the overall quality of your life far faster than you might think possible. All you need is the desire to change, the decision to take action, the discipline to practice the new behaviors you have chosen, and the determination to persist until you get the results you want.





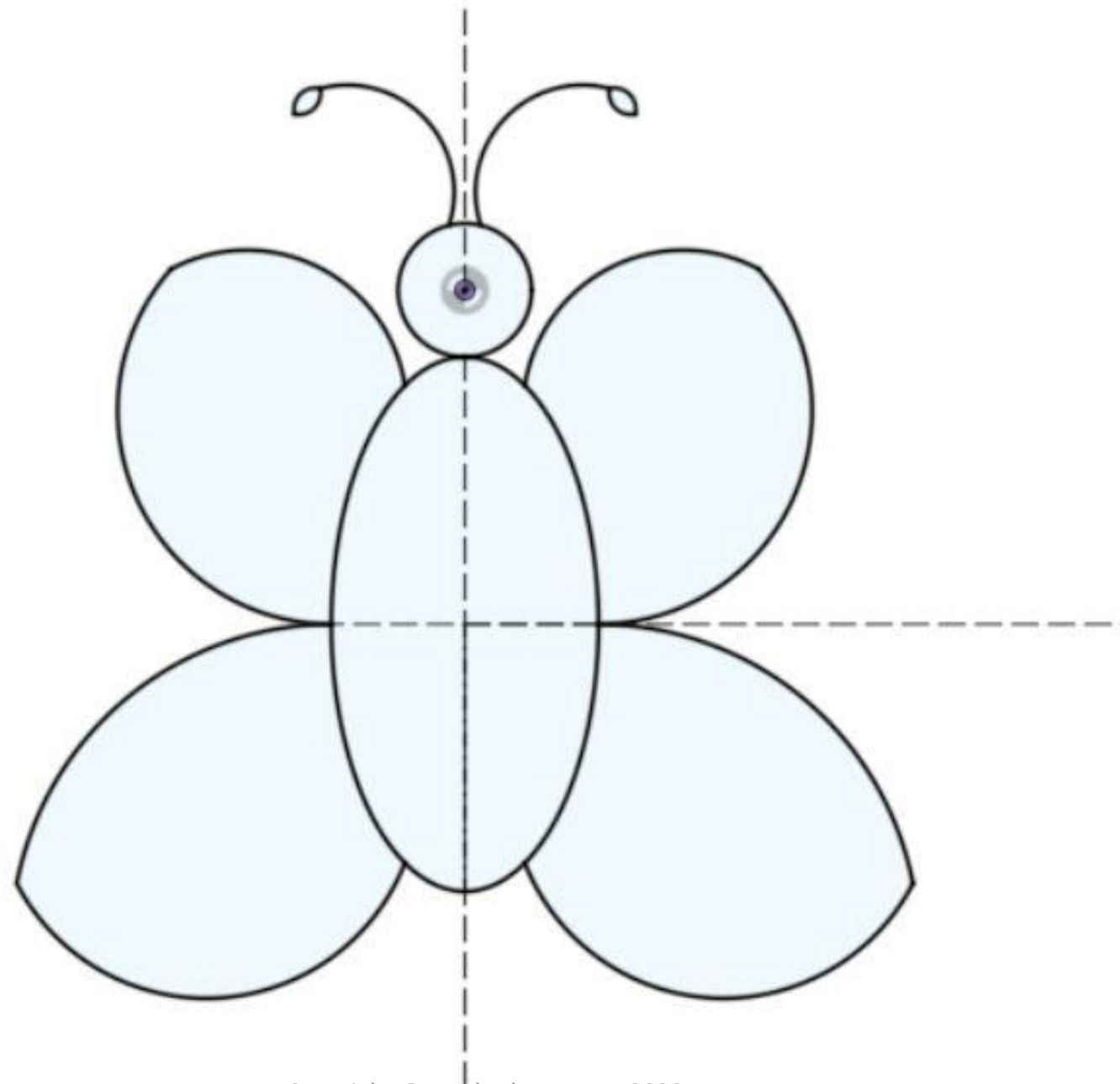


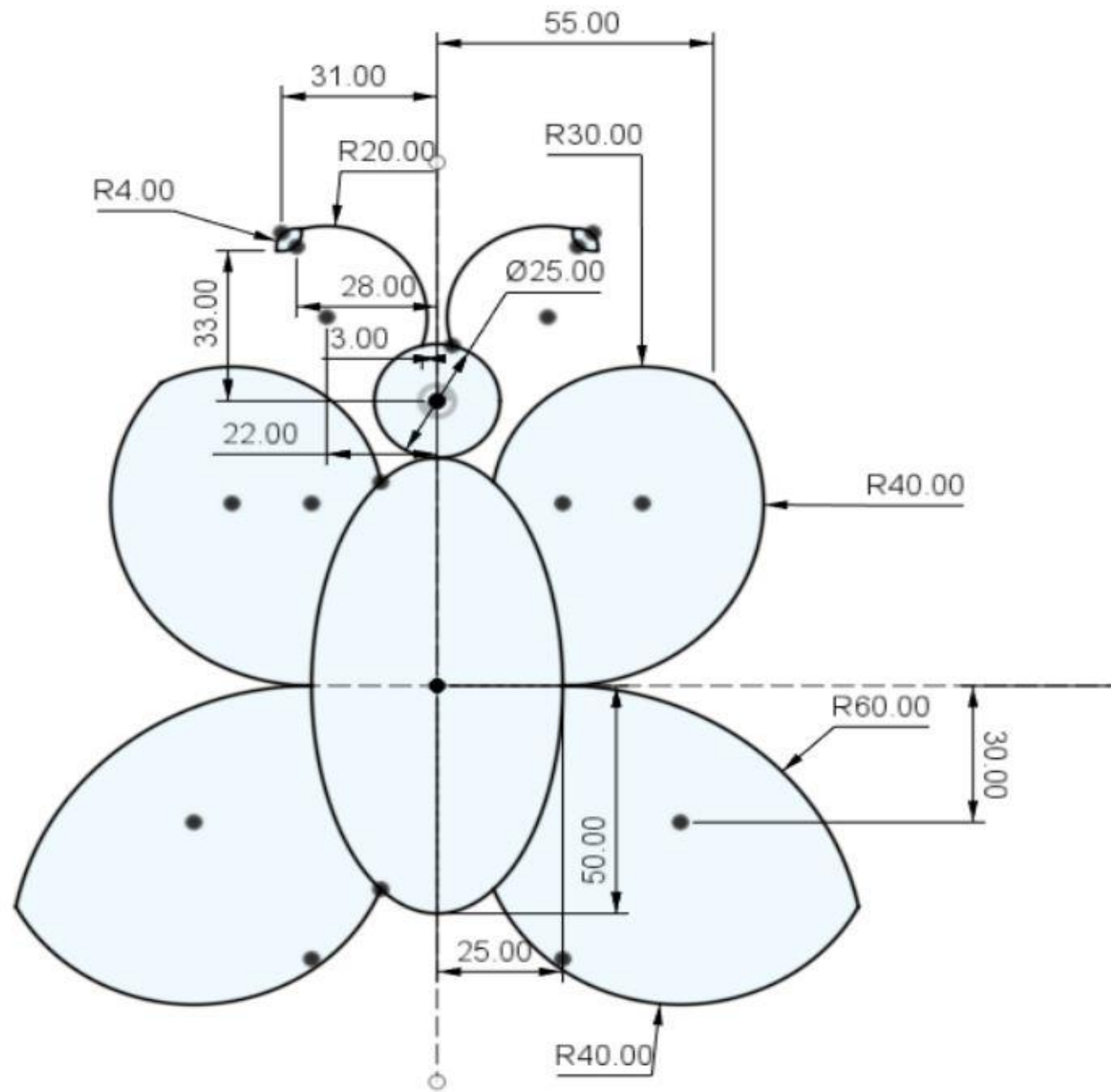


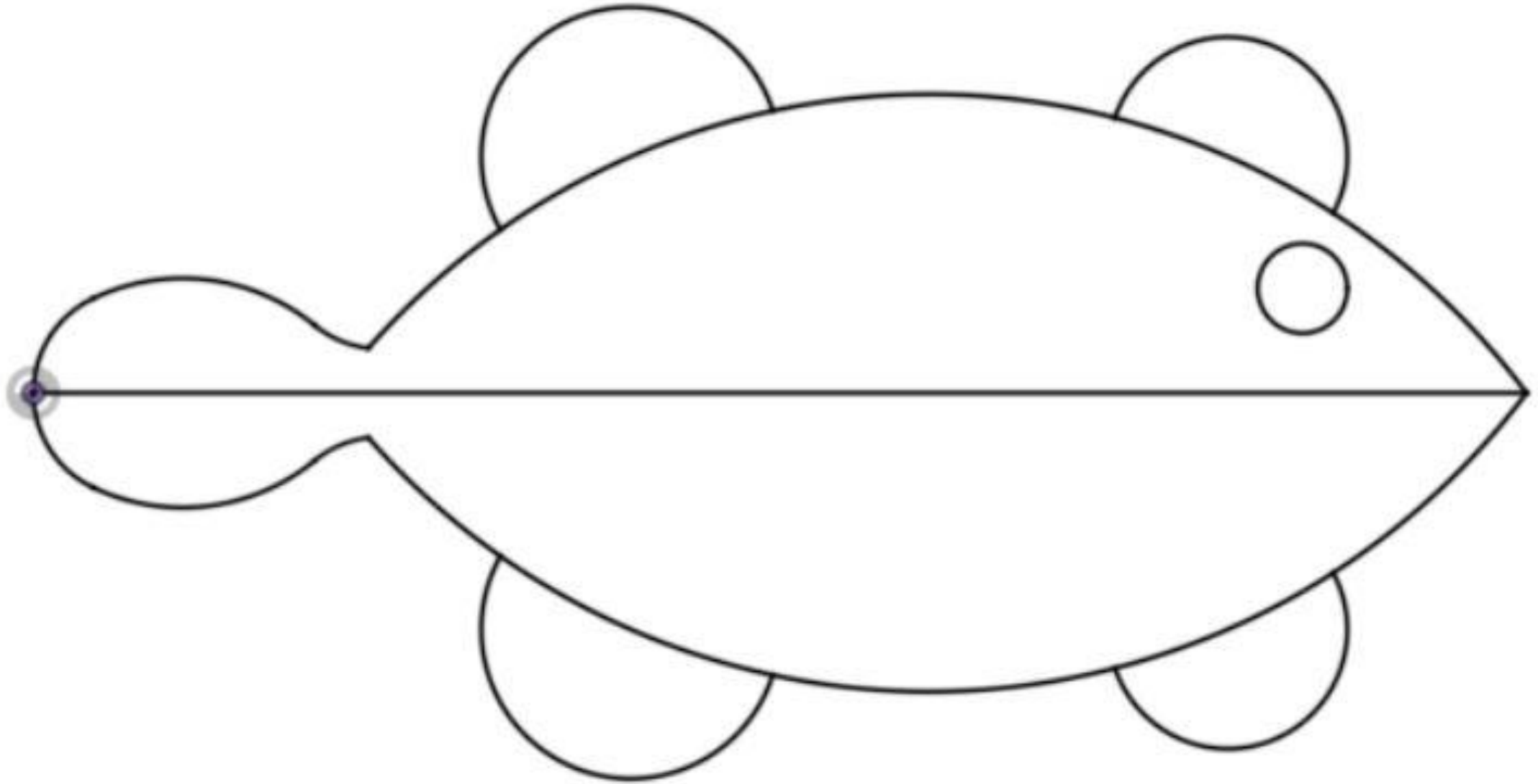


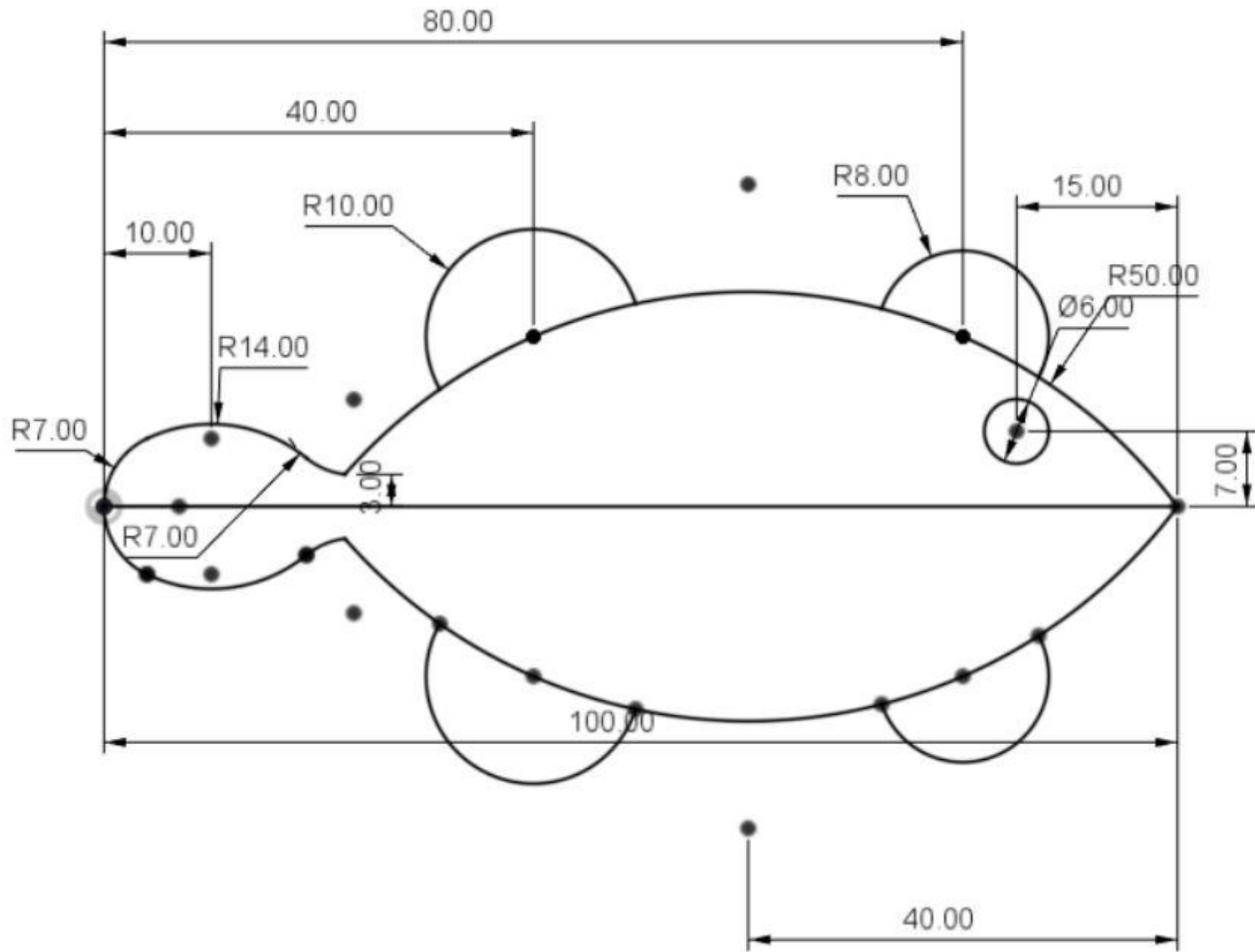
*Everything you are today - or ever will be in the future - is up to you.
Your life today is the sum total of your choices, decisions, and actions up to this point.*

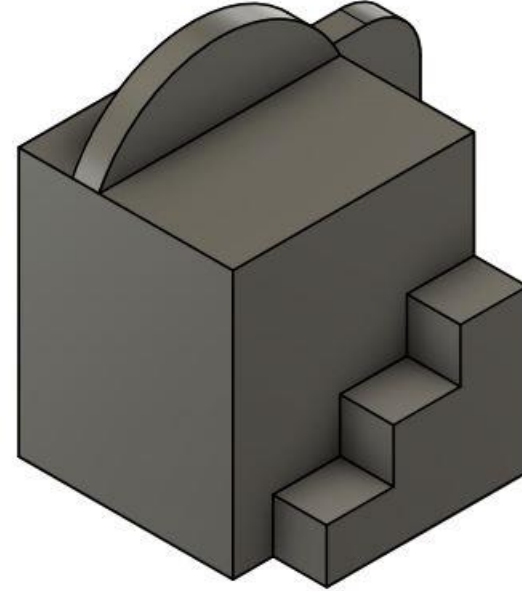
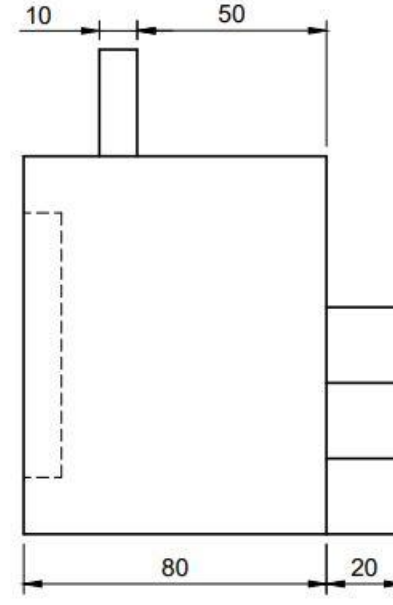
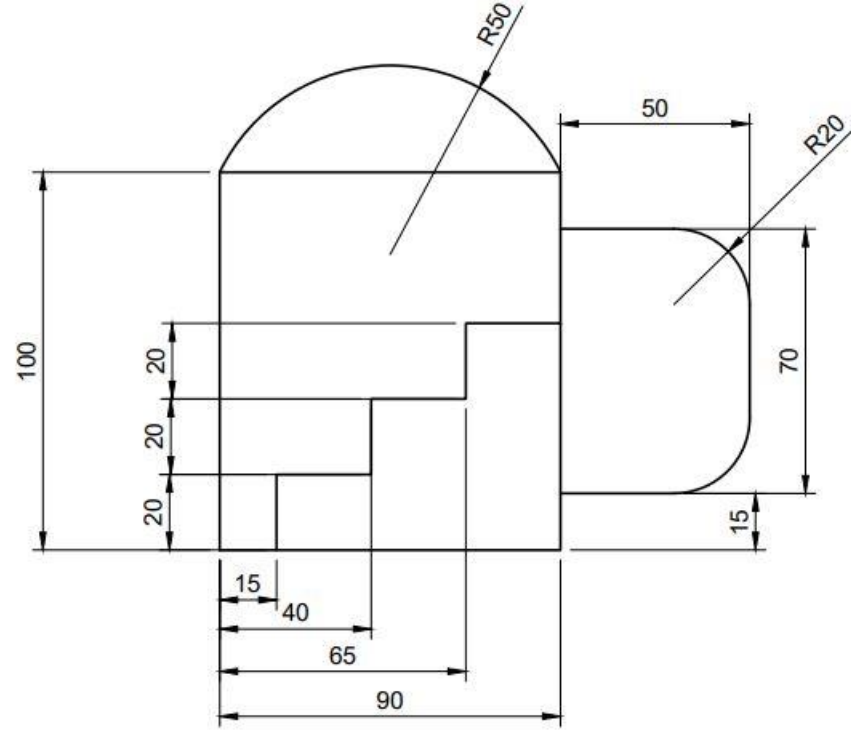
Brian Tracy

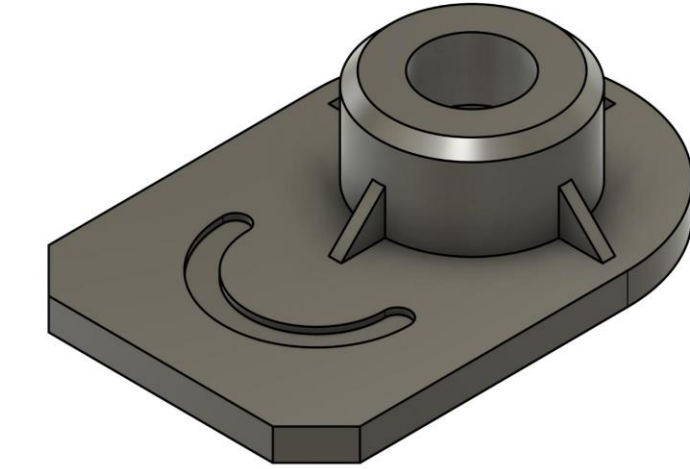
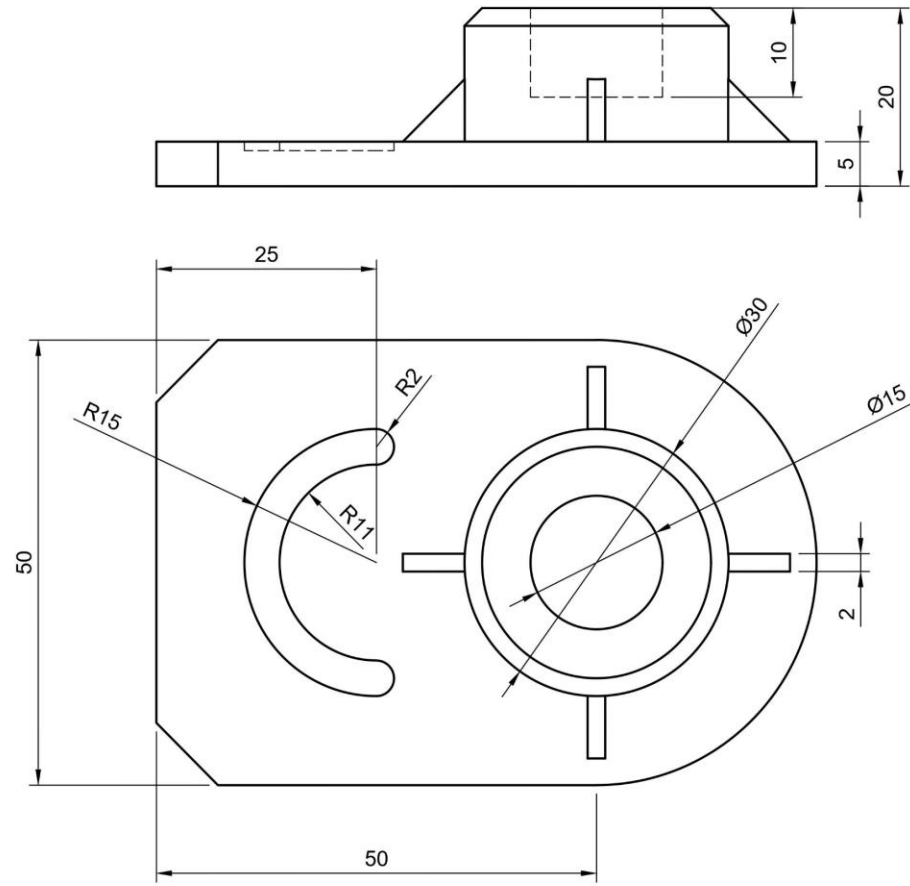






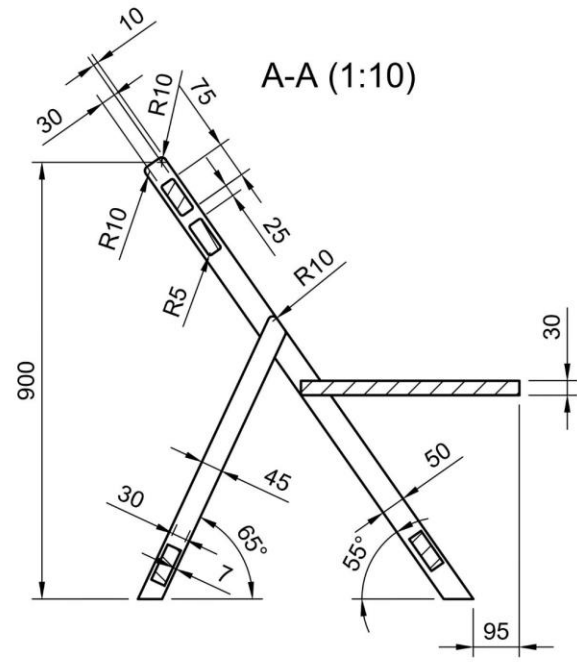
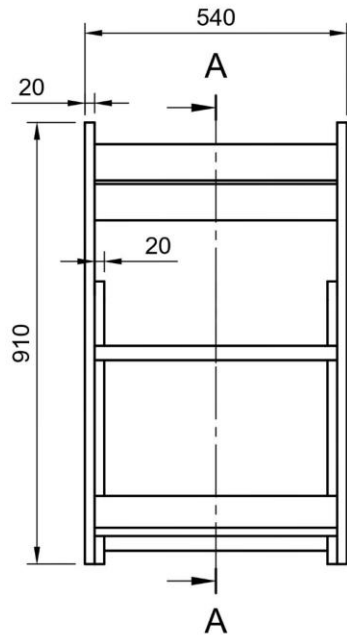
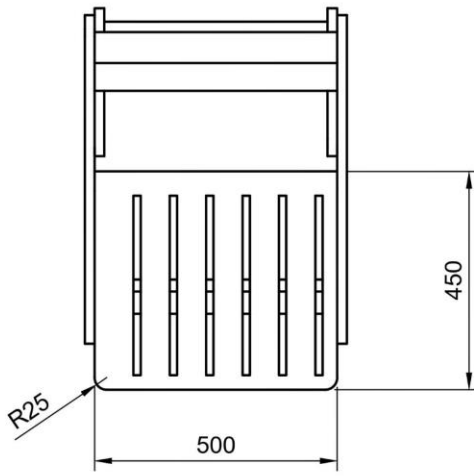






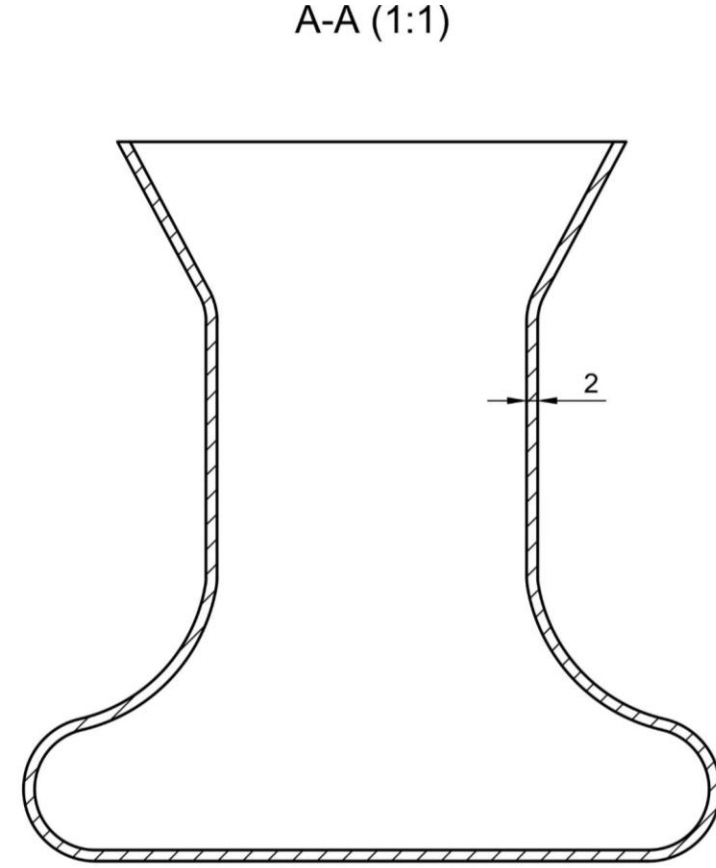
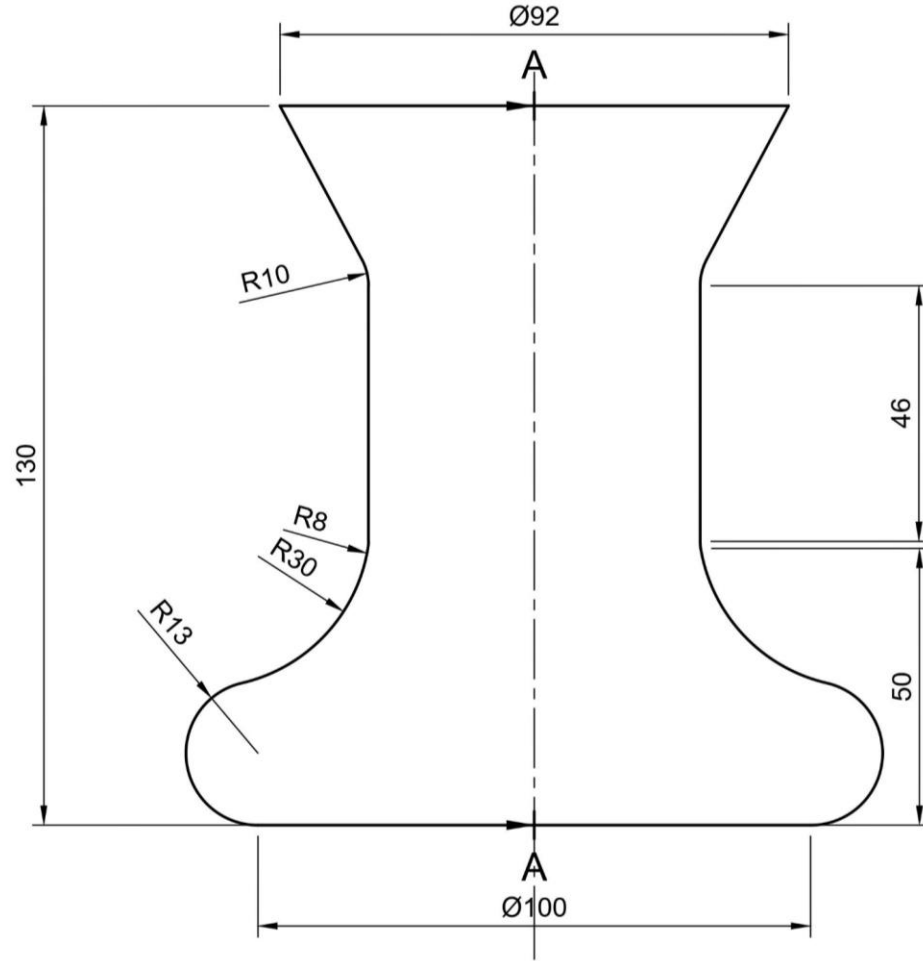
Success is not final; failure is not fatal. It is the courage to continue that counts.

Winston S. Churchill

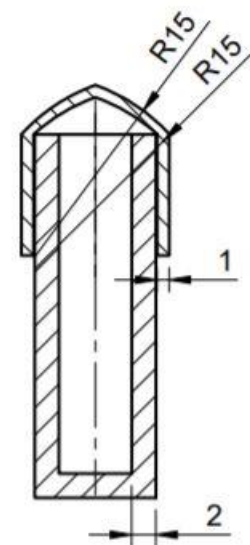
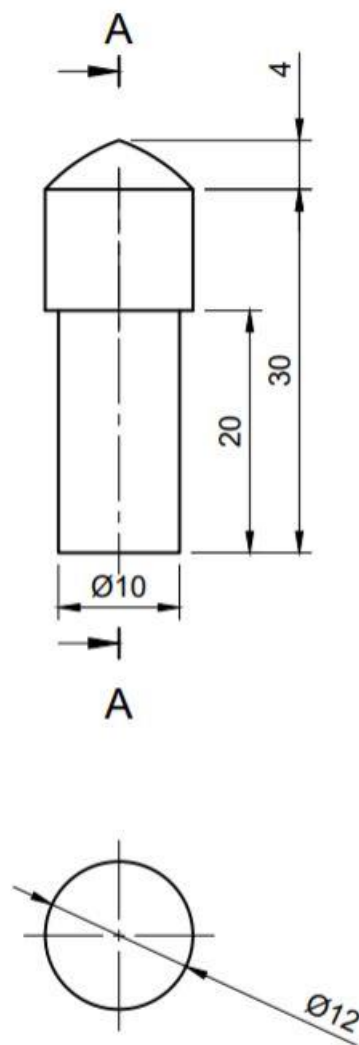


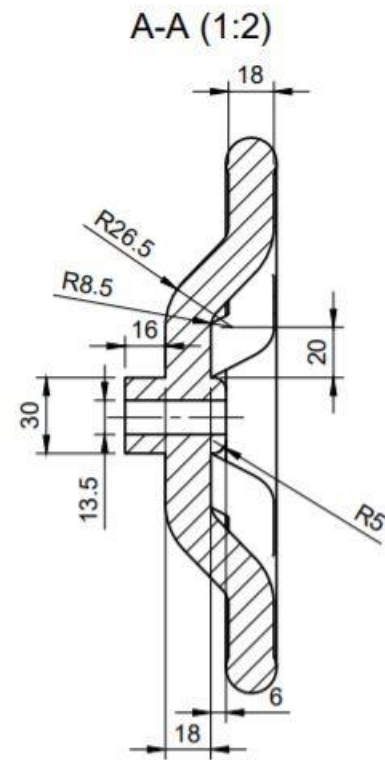
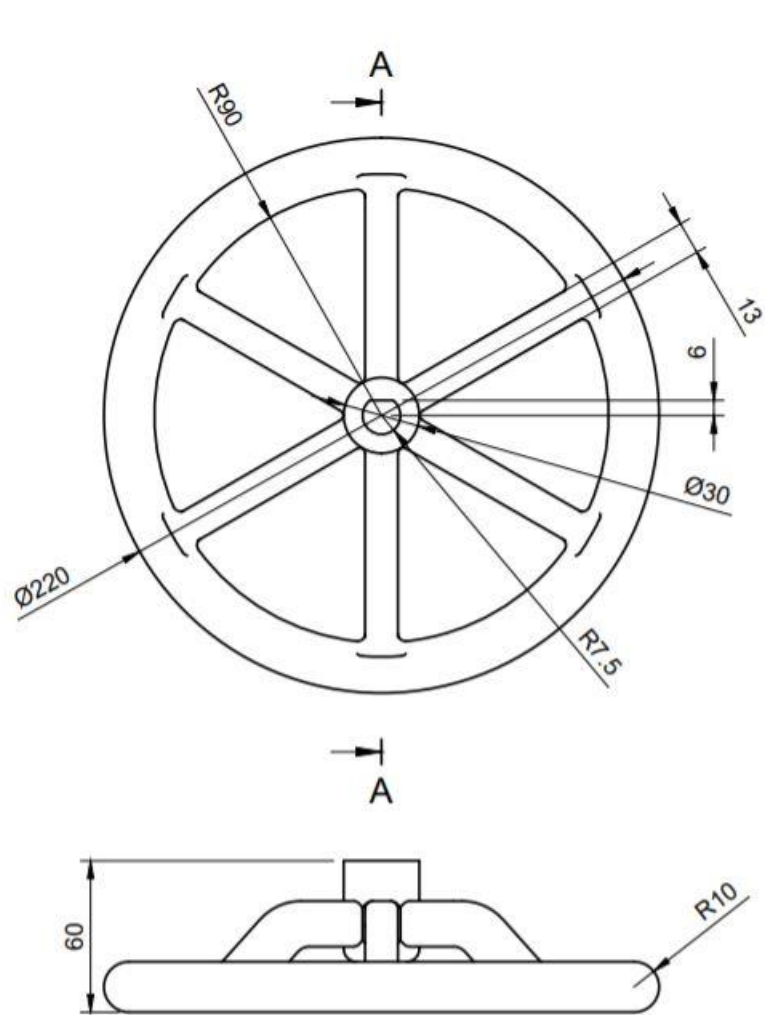
All the powers in the universe are already ours. It is we who have put our hands before our eyes and cry that it is dark.

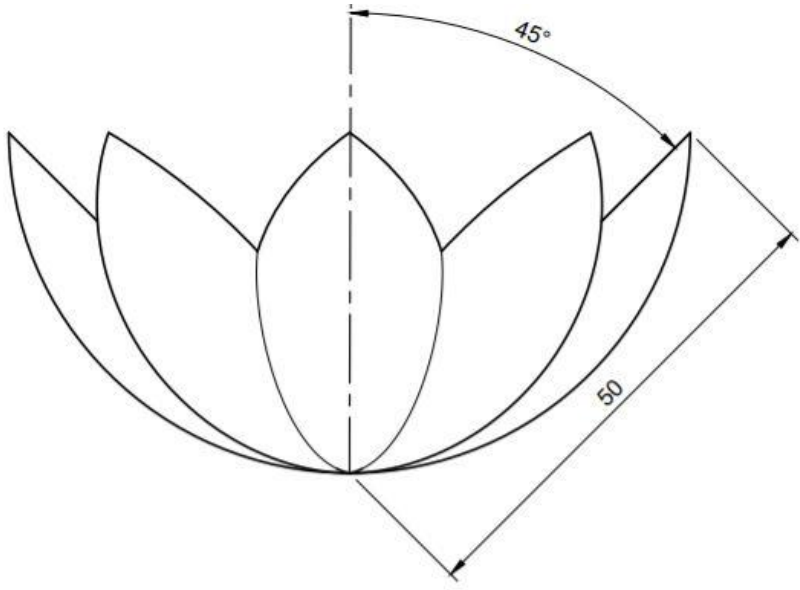
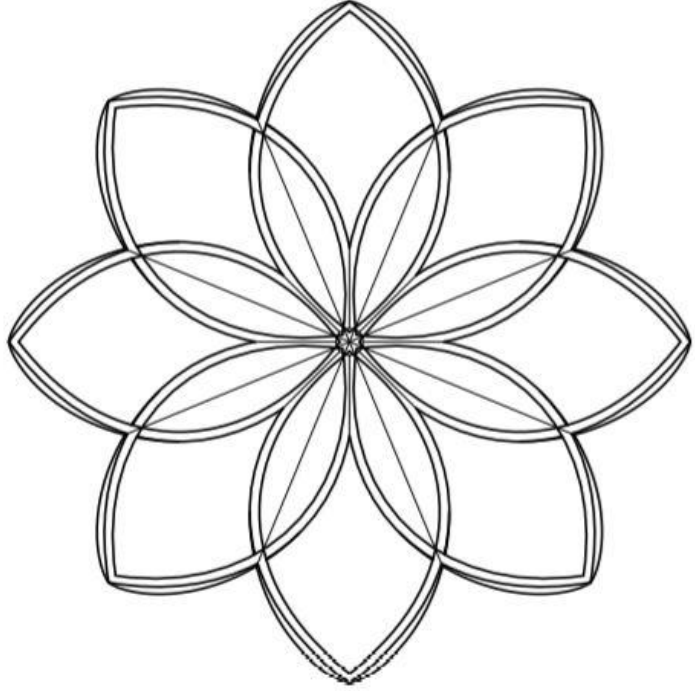
Swami Vivekananda



Make a Pills box using parametric features such that when container dimensions are changed, cap gets adapted to the new dimensions.

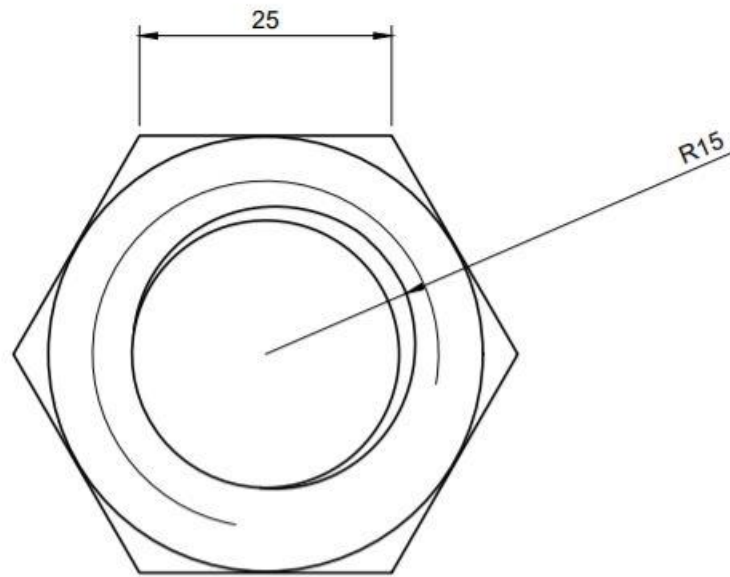






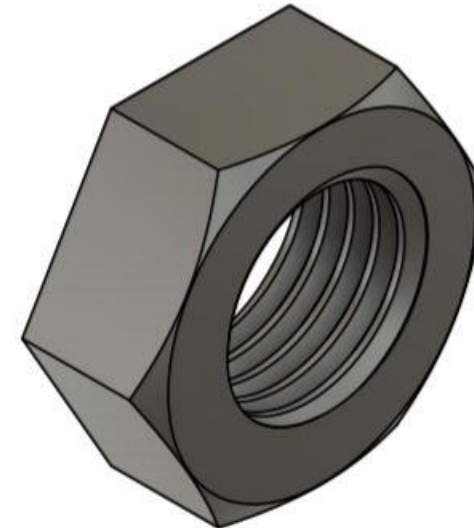
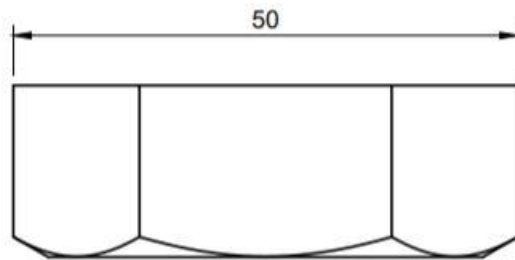
Doing the best at this moment puts you in the best place for the next moment.

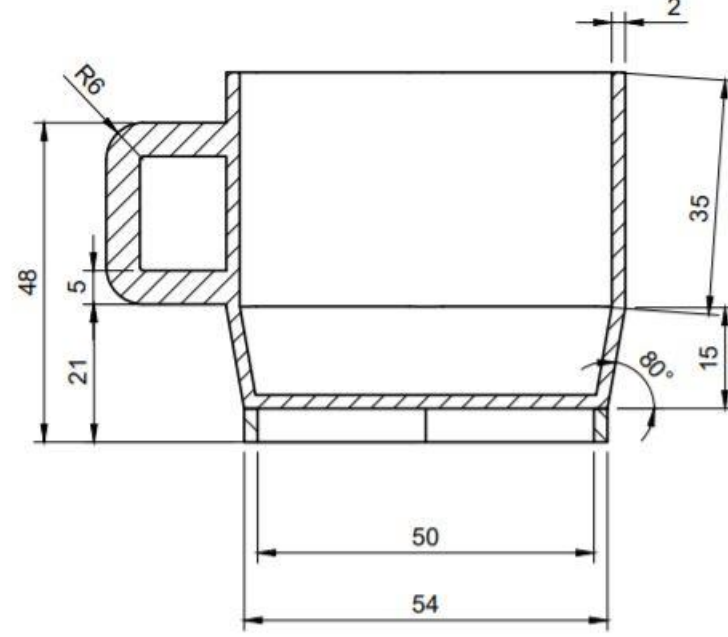
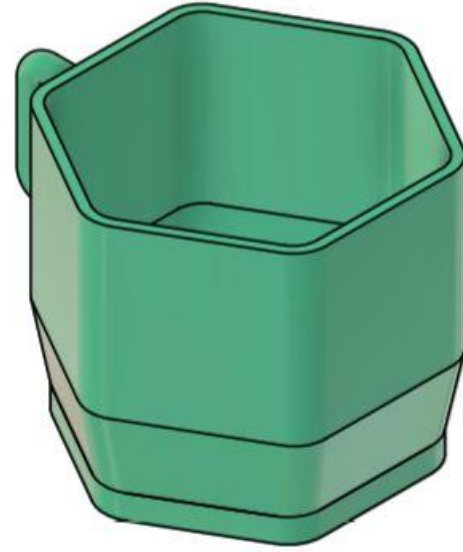
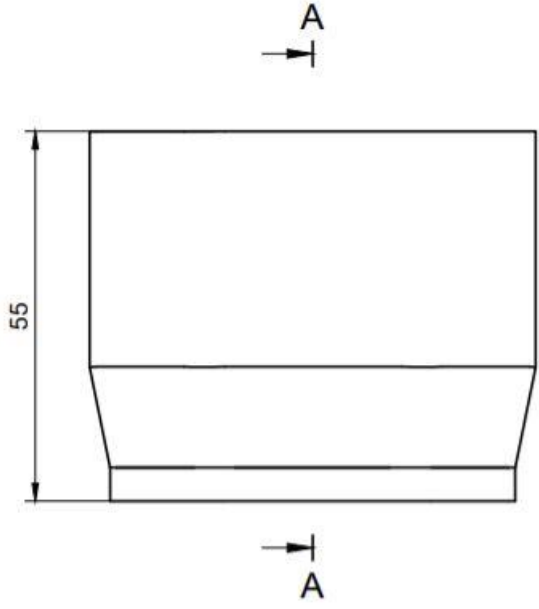
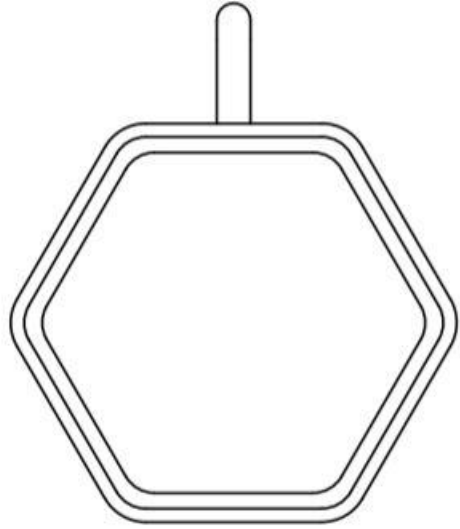
Oprah Winfrey

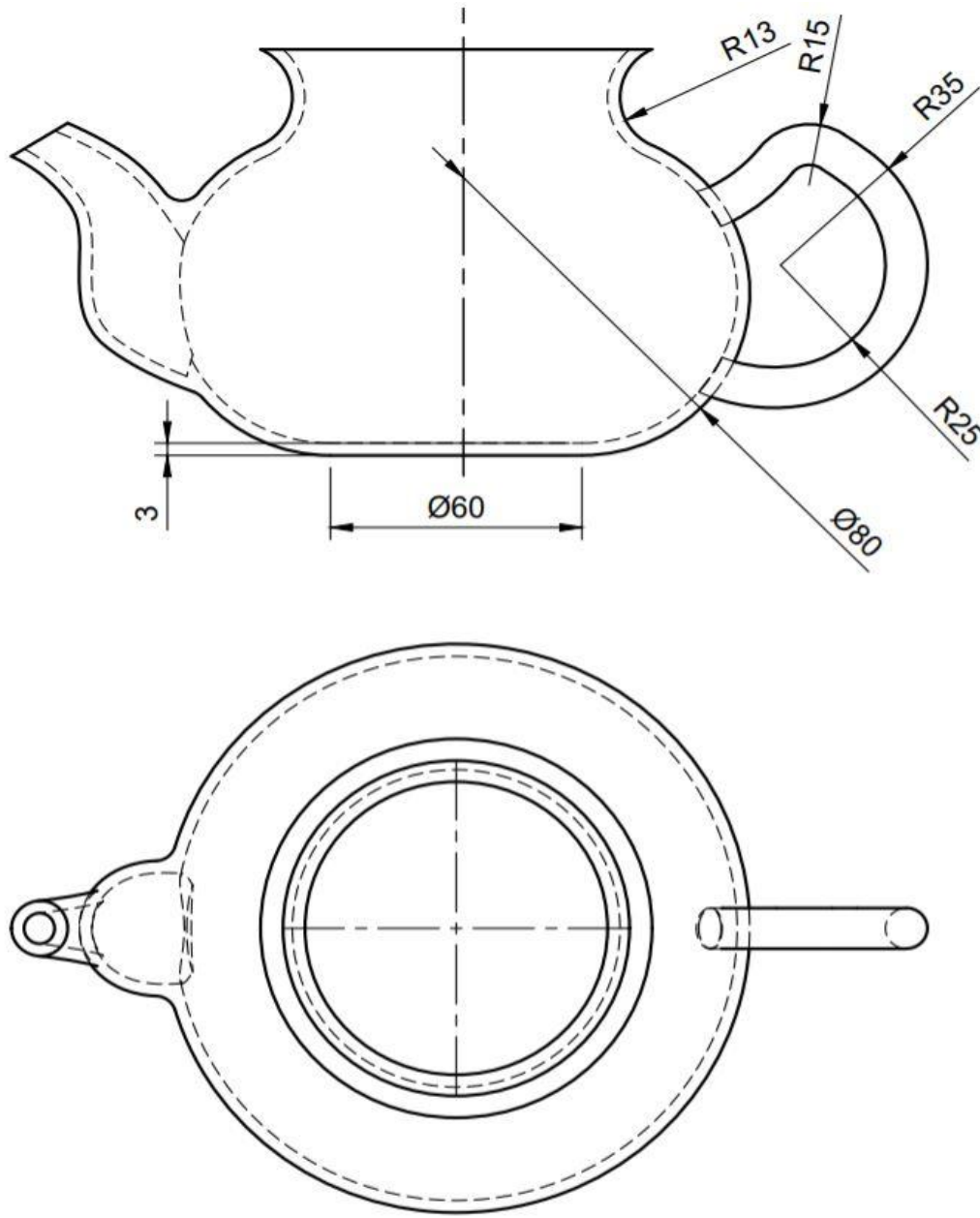


Thread Details

M30x3.5
ISO Metric Profile
Class 6H
Right Hand

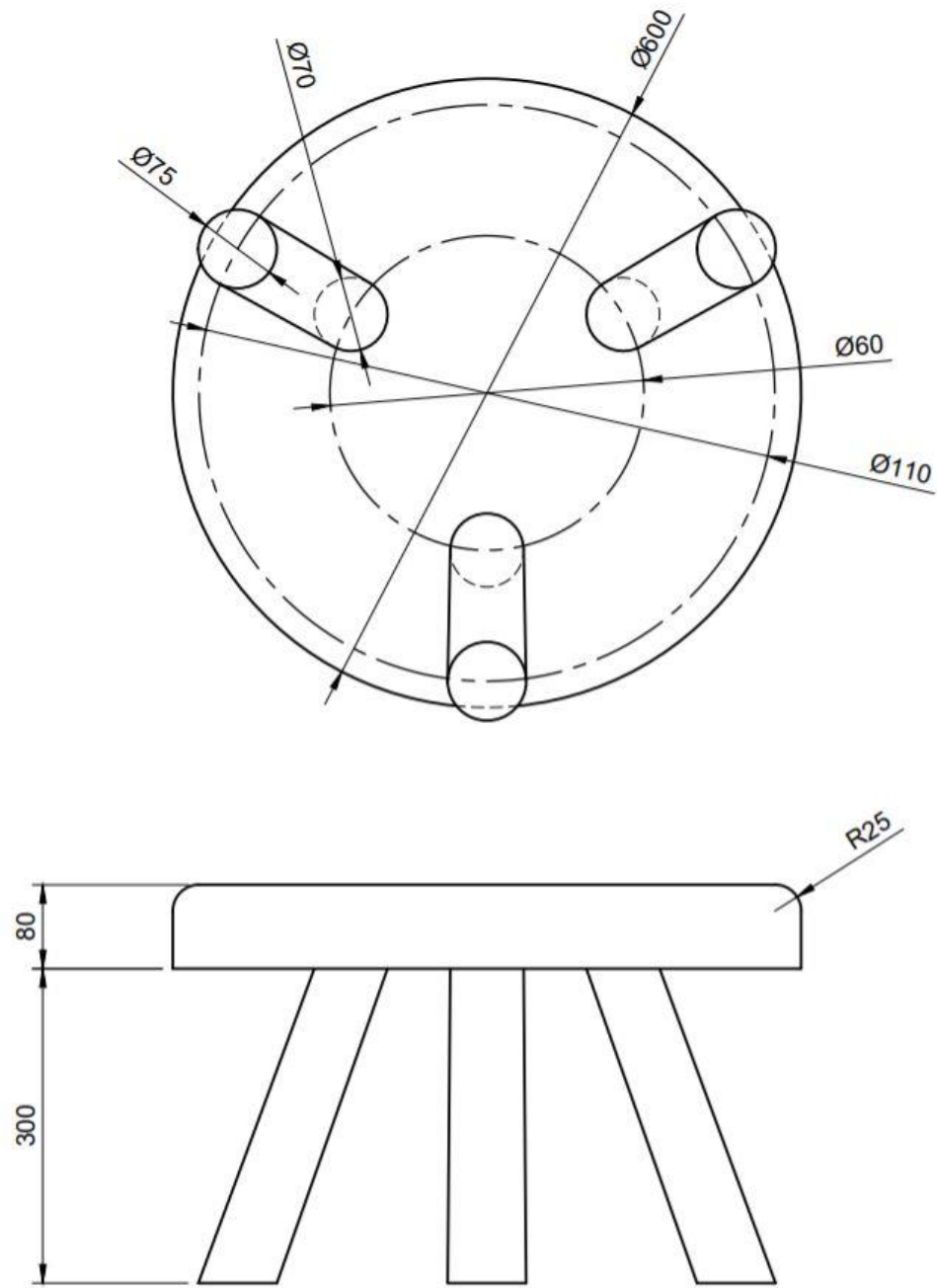


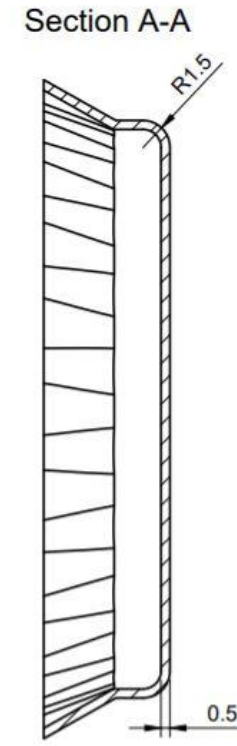
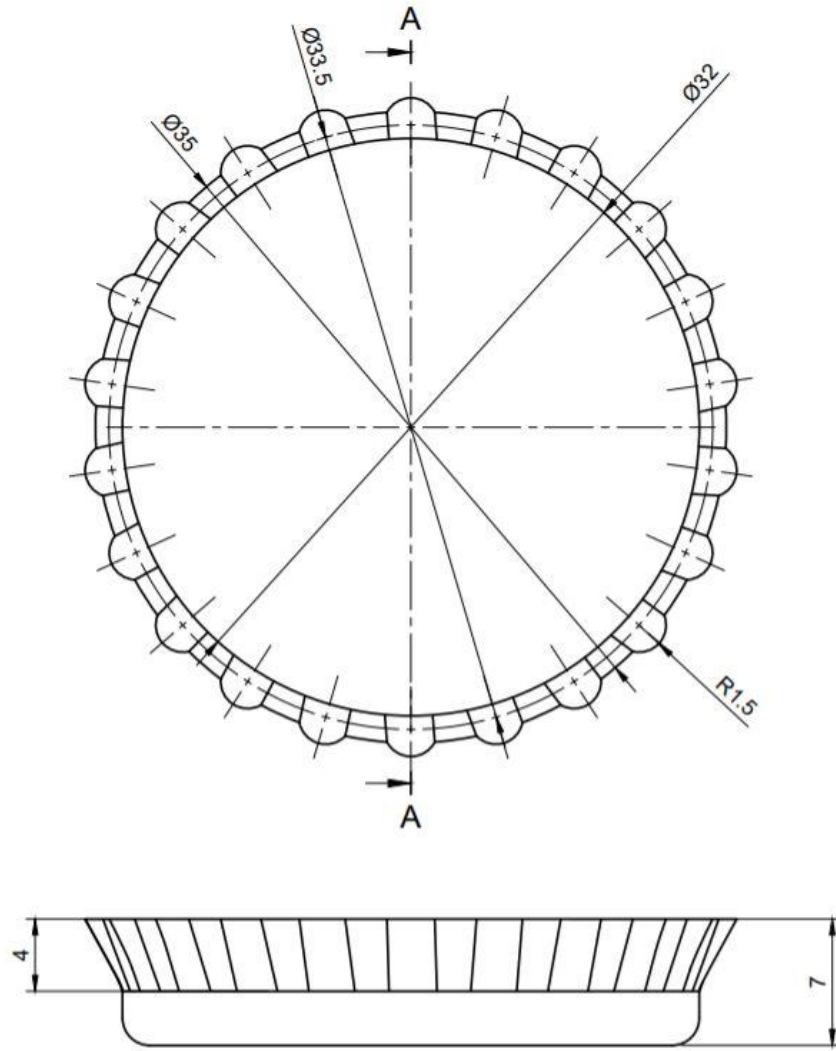




Take the freedom to shape spout and handle







More in Next Edition....

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