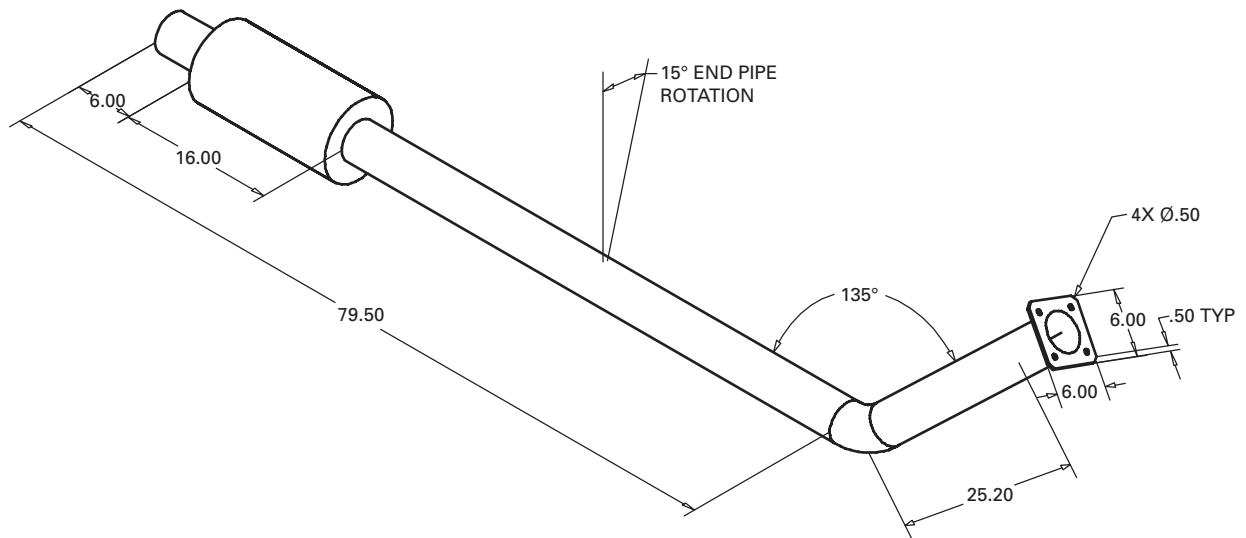


# CAD Problem 1

## Exhaust System

Create a plan view and side and front elevations of the exhaust system. Estimate any dimensions that are not given.



**Autodesk Inventor® Users:** Create a model of the exhaust system. Then create the 2D drawings to meet the problem requirements.

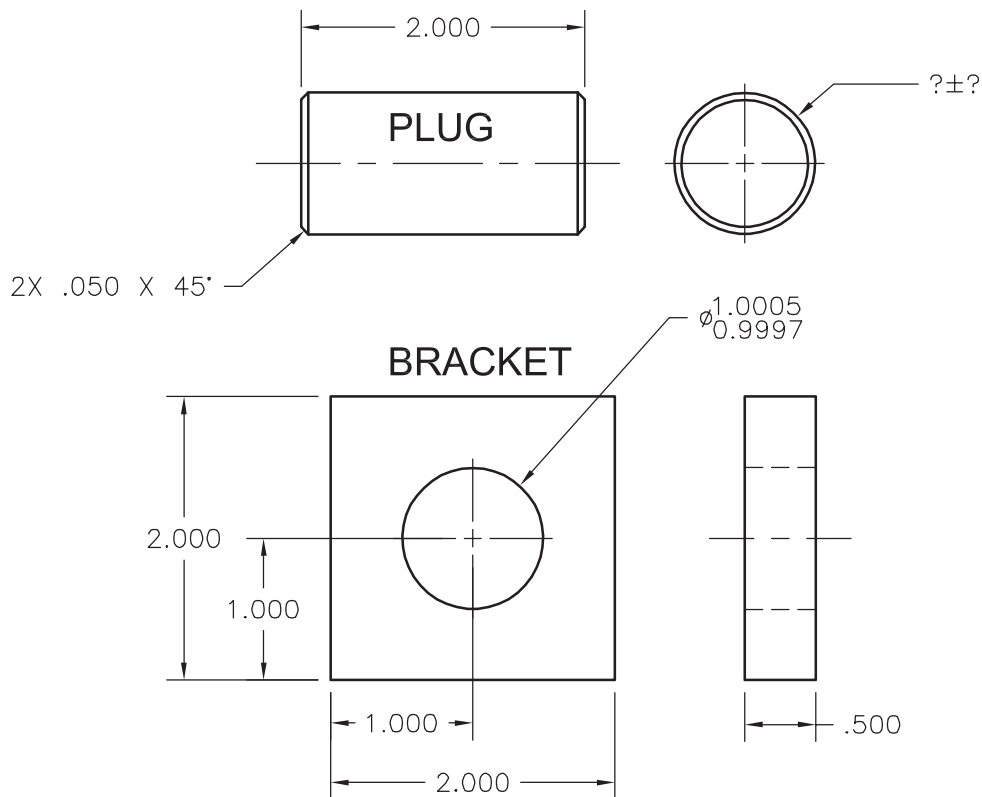
This problem can be used with the following Glencoe textbooks:

Textbook	Chapter
<i>Hands-On AutoCAD</i>	11
<i>Hands-On AutoCAD LT</i>	11
<i>Mechanical Drawing</i>	16
<i>Designing with Inventor 10</i>	12

## CAD Problem 2

### Plug and Bracket

Create a drawing of the plug and bracket shown below. Calculate the size of the plug so that (1) the pin is the exact size of the hole at its largest or (2) the pin has a .0005" interference fit. Using this technique, the pin will always be a press fit or jammed into the hole.



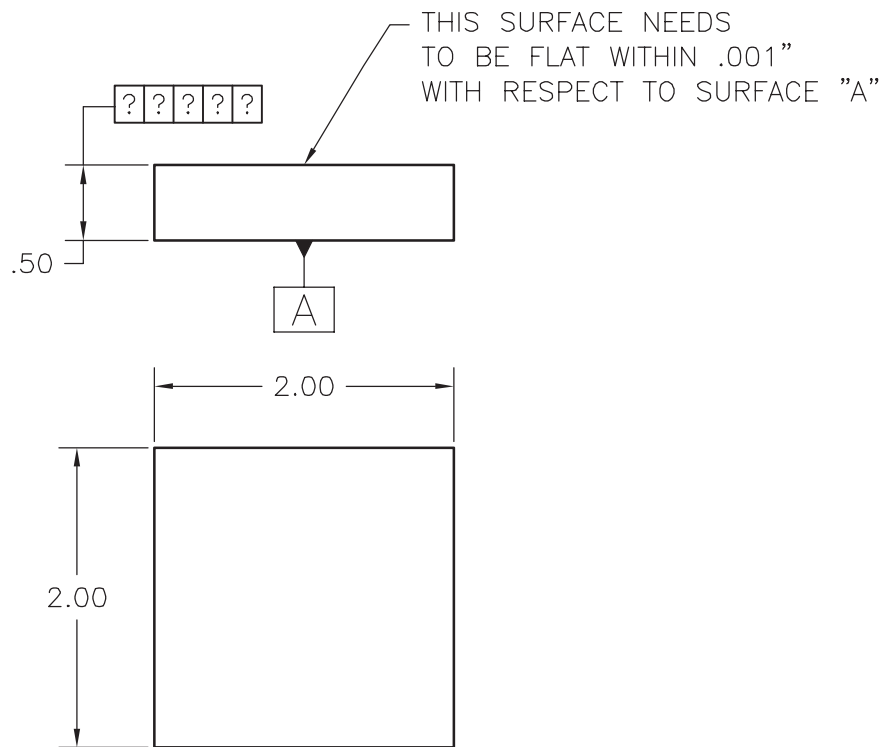
This problem can be used with the following Glencoe textbooks:

Textbook	Chapter
<i>Hands-On AutoCAD</i>	12
<i>Hands-On AutoCAD LT</i>	12
<i>Mechanical Drawing</i>	7, 11

# CAD Problem 3

## Tolerances

Create the drawing shown below. Replace the note with the proper tolerance to call out.



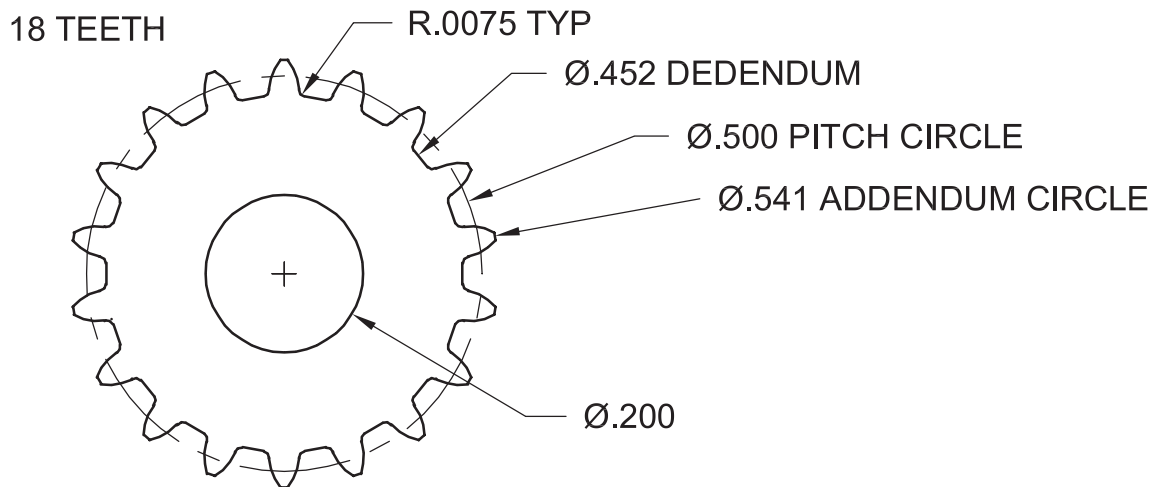
This problem can be used with the following Glencoe textbooks:

<b>Textbook</b>	<b>Chapter</b>
<i>Hands-On AutoCAD</i>	12
<i>Hands-On AutoCAD LT</i>	12
<i>Mechanical Drawing</i>	7, 11
<i>Applying AutoCAD 2006</i>	29
<i>Applying AutoCAD 2005</i>	28

## CAD Problem 4

### Gear for Race Car Transmission

You are working for a NASCAR racing team to develop a new transmission for one of their race cars. You have just determined that you need to develop a specialized 18-tooth gear. Using the information below, create a profile of the gear.



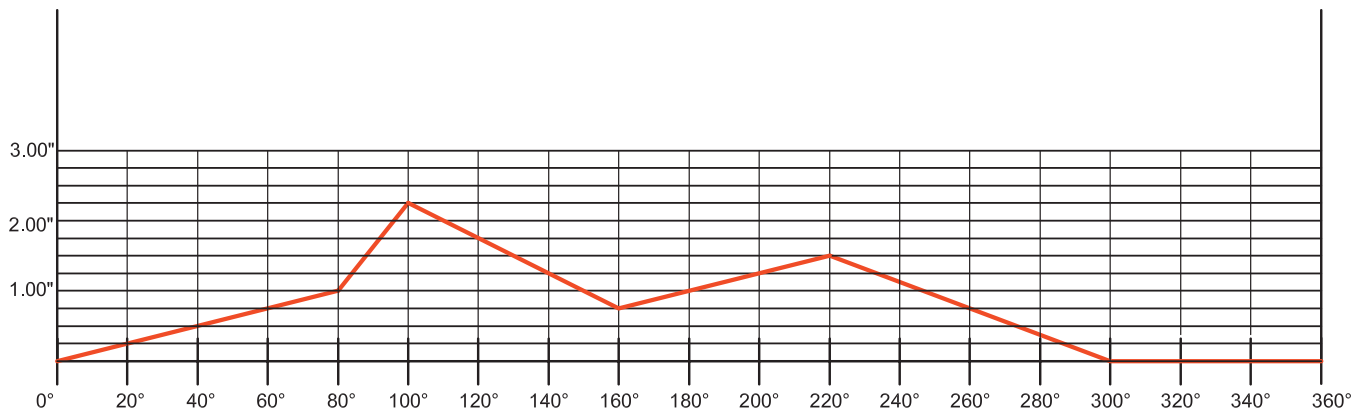
This problem can be used with the following Glencoe textbooks:

<b>Textbook</b>	<b>Chapter</b>
<i>Hands-On AutoCAD</i>	13
<i>Hands-On AutoCAD LT</i>	13
<i>Mechanical Drawing</i>	17

## CAD Problem 5

### Pipe Layout

You are working on a new kind of industrial sewing machine. This machine requires the use of a rather strange cam. Create a cam profile drawing for the cam displacement diagram shown in Fig. 13-2. Assume that the cam has a 1.000 base circle. Use a spline to create the profile. Consider the design: Would this be a good or bad cam design? Explain your answer.



This problem can be used with the following Glencoe textbooks:

<b>Textbook</b>	<b>Chapter</b>
<i>Hands-On AutoCAD</i>	13
<i>Hands-On AutoCAD LT</i>	13
<i>Mechanical Drawing</i>	17