

InsightTM
Technical Education

ADVANCEDTM

COMPLETE-A-SKETCHTM

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A brief note of introduction:

The Insight™ Technical Education Complete-A-Sketch™ series was created so that I could introduce my children to the technical side of art. There are many art courses available for children. Complete-A-Sketch is different from all of them. The unique approach of Complete-A-Sketch allowed me to teach my children to draw what they see. I think of technical art as a practical art. It allows the artist to clearly present their ideas to others. As the old saying goes, “a picture is worth a thousand words.” Line art is a basic form of communication and learning the basics of sketching is as important as learning to write.

The Complete-A-Sketch™ Advanced™ difference:

Advanced™ has been created to fill a couple of specific needs. It is a great introduction to drafting concepts. It introduces some advanced communication techniques that include flat patterns and model building. Advanced neatly bridges the gap from the first three Complete-A-Sketch books to Practical Drafting™.

Though Advanced uses the same type of drawing techniques used by the original series, Advanced pushes the student to sketch complex objects and scenes and build 3D paper models. Advanced also provides the opportunity to explore other technologies. Complete-A-Sketch Advanced also includes a variety of [bonus](#) materials that introduce a set of tools and concepts that can aid in choosing possible career paths or expanding horizons.

About the creators:

Mel has many years of drafting, design, and engineering experience in several disciplines. Ian is a student in industrial design and is looking forward to a career in that field. Clay is looking toward continuing his education in the realm of civil engineering. This is our attempt to inspire, enrich, and teach simplified sketching to anyone that has an interest or desire.

Acrobat Hints:

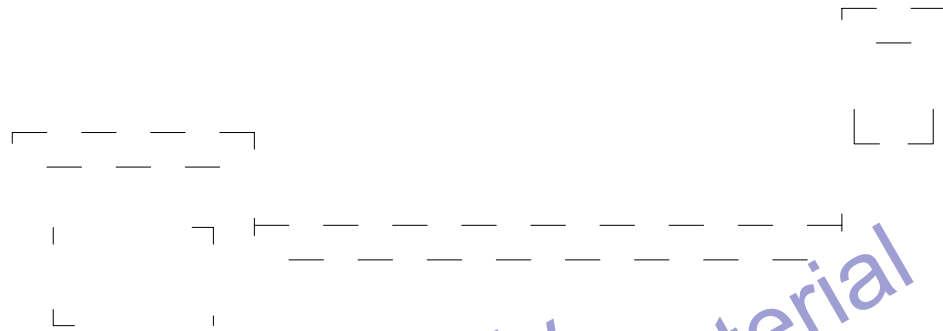
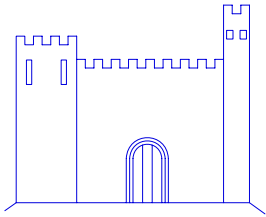
Acrobat is a powerful tool that has many functions to allow for adjusting print quality, zooming, etc. This file contains many hyperlinks to files and locations on the internet. Hyperlinked text is seen as blue and underlined. Graphics may also be hyperlinked. In Acrobat the cursor changes to a pointer finger when hovering over a hyperlink. Take the time to explore the PDF tool you are using. Also see the program's help file for specific information.

Instructions:

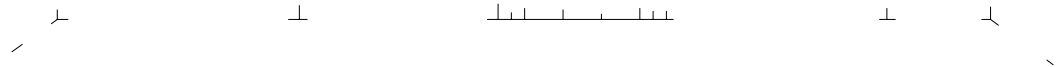
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1. Print as many practice pages as you wish for your personal use.
2. A sample of the complete sketch is located in the upper left hand corner of each box or page. A partial sketch is provided to aid in key areas for you to trace over with your pencil. Trace over all the help lines. Pay close attention to the complete drawing. The partial sketches are not complete and are missing some detail and lines. The paper models do not need to be drawn.
3. After you have completed the free-hand tracing of each image, sketch the image on a blank piece of paper. These are advanced sketches that require thought, observation, and paying attention to the smallest details.
4. Move on to use a ruler, straight edge, french curve, flexible curve, and compass or circle template to complete each sketch.
5. There are [graph paper](#) layouts provided toward the back of this book that may be used for creating your own sketches.
6. There are additional instructions in the model section. Please review them prior to starting any of the projects.

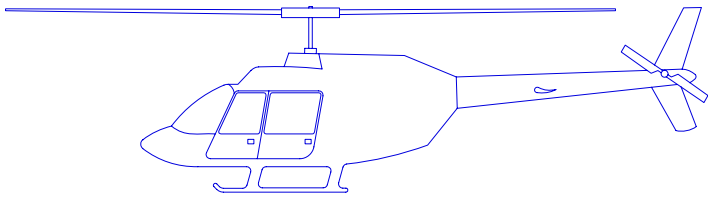




Sample Only
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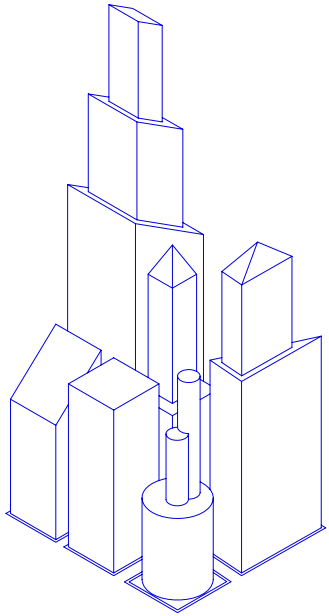
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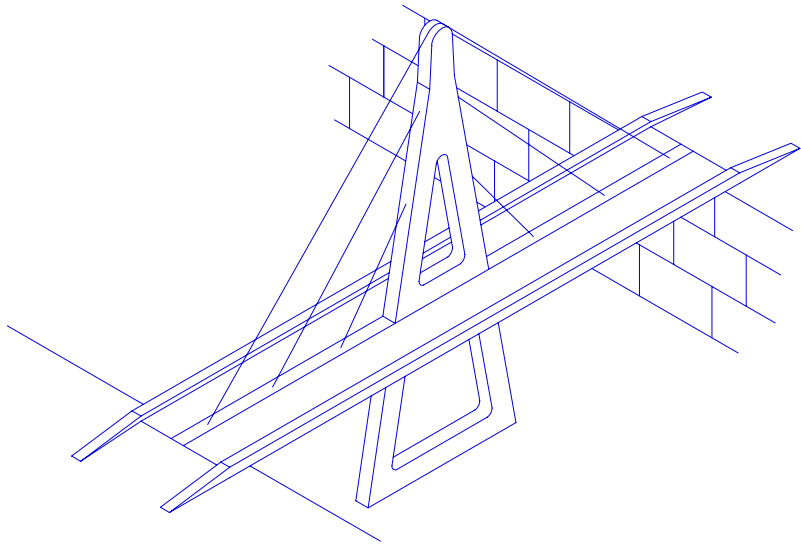
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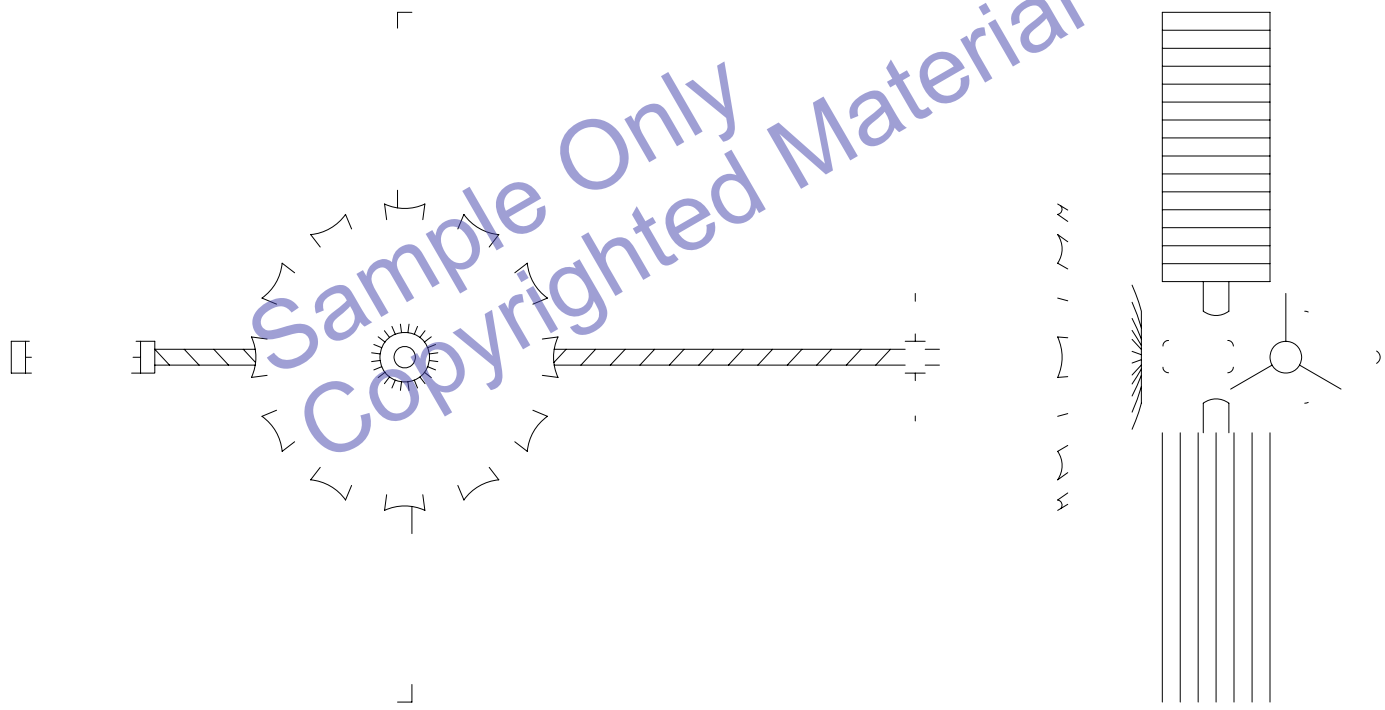
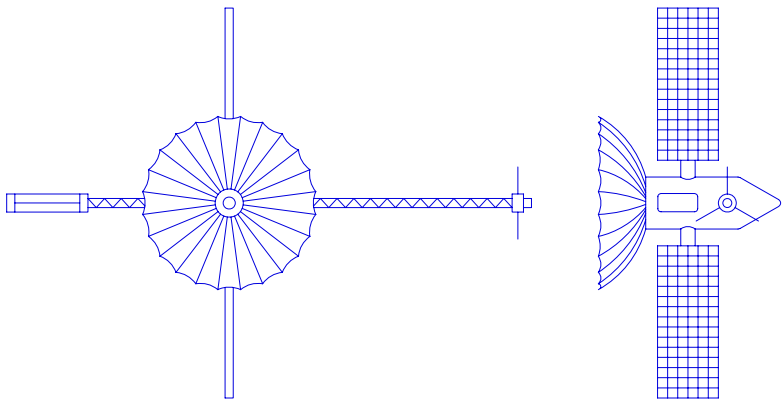
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Title: ISOMETRIC SKETCH CABLE BRIDGE	
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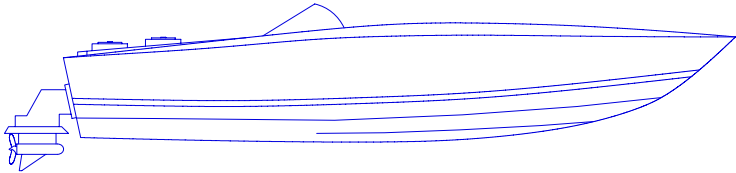
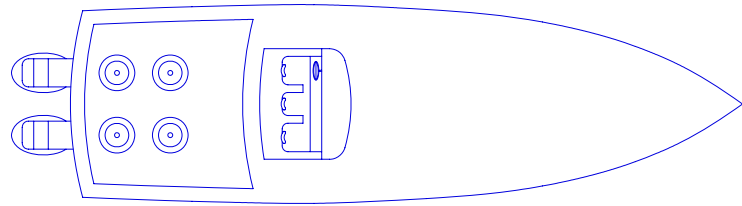


Title: MULTI-VIEW SKETCH
SATELLITE

Name: _____

Date: _____





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Title: MULTI-VIEW SKETCH
OFFSHORE RACE BOAT

Name: _____

Date: _____



Paper models:

There are some simple instructions and methods used for this section. Each project includes a photo or photos of the finished model and drawings for you to cut out, construct, and assemble. All cut and fold lines are indicated. Feel free to use paste, glue, or tape to assemble the models. This section will require some tools and a place to work. Some models are just for fun, others will teach additional concepts. Please note that photos used in this section are unedited and are intended to show how these models look in "real life" as they were built and tested.

Use the graph paper layout at the end of this section to lay out your own patterns.

Requirements:

1. Straight edge
2. Scissors
3. Craft knife
4. Cutting pad (so you do not cut or damage anything)
5. Paste, white glue, or tape

Instructions:

1. View the photo or photos of the model to be built.
2. Follow the additional "Tips" that are provided on the first page of each project.
3. Cut out the model's flat pattern (dark red lines).
4. Fold and construct all parts (dark blue lines - dashed).
5. Attach all the parts together using glue, paste, or tape.
6. The decorative and guide portions of the drawings are in black. You may also add your own designs to embellish the models. If you print in black, you may need to look at the computer screen to see the colors.

General Construction Tips:

1. Use a straight edge to make a straight and crisp fold.



2. Pre-bend tape before putting tape in corners for easier construction.



3. Loop the tape and fold crisply to make an alternative to double sided tape.

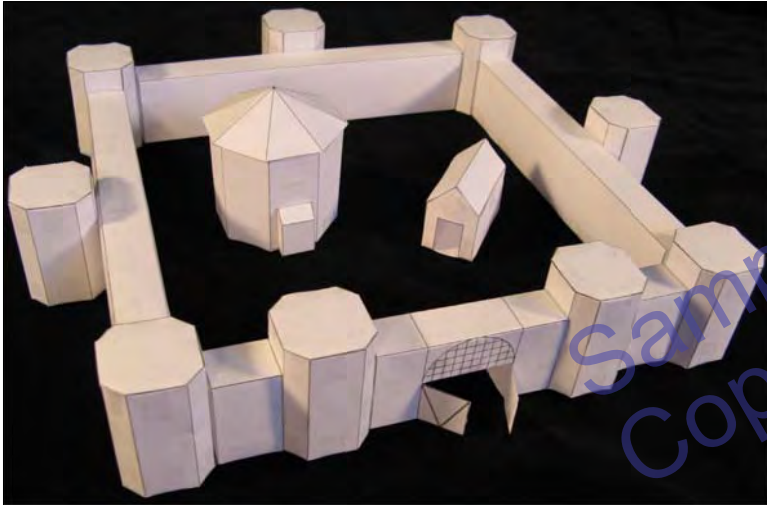


4. Fold the paper as a hinge, creating a "living" hinge.

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Tips:

1. Build all of the separate parts.
2. Fold and cut the gates so that they have live hinges.
3. Attach all of the walls and towers together.
4. Put the base of the keep together and attach the keep door. Fold only the lower portion of the keep roof fold lines, approximately $\frac{1}{2}$ " up the roof line and attach to keep.



ASSEMBLY

Tips:

1. Build all the separate parts.

2. When folding the stabilizers, there is no need to make any creases. Simply bend the stabilizer shape so that the edges of the stabilizer meet. The small point bends into place and is taped into position. No tabs are provided because they make assembly more difficult in this case.

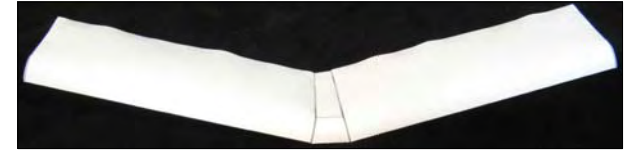
3. Attach the stabilizers to body. Hold the stabilizer flush with the top of the fuselage, then tape across the fuselage and stabilizers. Use a second piece of tape to add some strength. Make sure that you keep the stabilizers across from each other and oriented with the fuselage.

4. The tail is attached to the fuselage with the thinnest part of the tail positioned just above the tail of the fuselage.

5. Attach the wings to the wing key prior to attaching to the fuselage.



WING EXPLODED ASSEMBLY



WING ASSEMBLY



STABILIZER



FUSELAGE STABILIZER ASSEMBLY
SIDE



STABILIZER ASSEMBLY
TOP



TAIL
BOTTOM



ASSEMBLY