

A Manual  
of  
CARDBOARD MODELLING,  
With  
Full Working Drawings and Instructions  
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Preface By T. G. Roper  
With a New Foreword By Brittney McGann

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## WORKING DIAGRAMS OF THE MODELS

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### MODEL No. 1

#### TRIANGULAR KEY LABEL

8 c. (3 1/8 in)

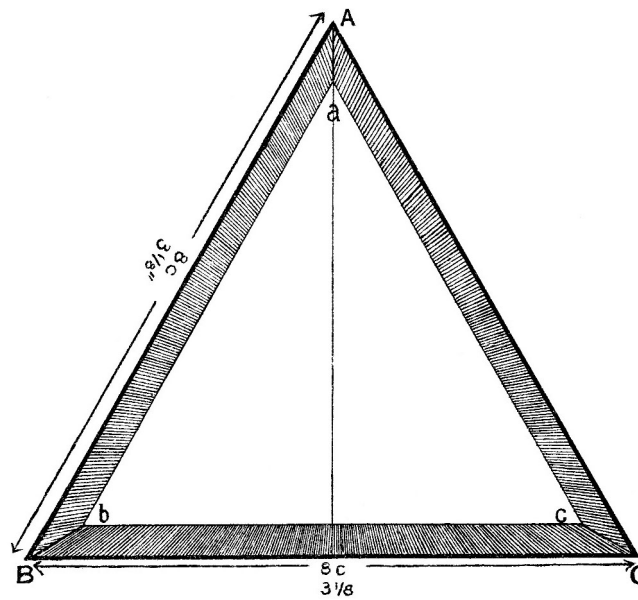
1. Describe an equilateral triangle of 8 c. (3 1/8 in.)
2. Cut out with clean perpendicular edge.
3. Bind whole side from *A* to *C*, cutting off the ends in a line with *AB* and *BC*.
4. Bind *AB*, fitting along diagonal *Aa*, and cut off in line with edge *BC*.
6. Bind *BC*, fitting along diagonals *Bb* and *Cc*.
7. A small hole should be punched in one of the angles.

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### MODELS Nos. 2, 3, 4, 5, 5*a*, 5*b*

KEY LABELS and TABLE MATS do not require further drawings than that given in Figure 6 in the text.

See List of Models for dimensions.



Full size of Model

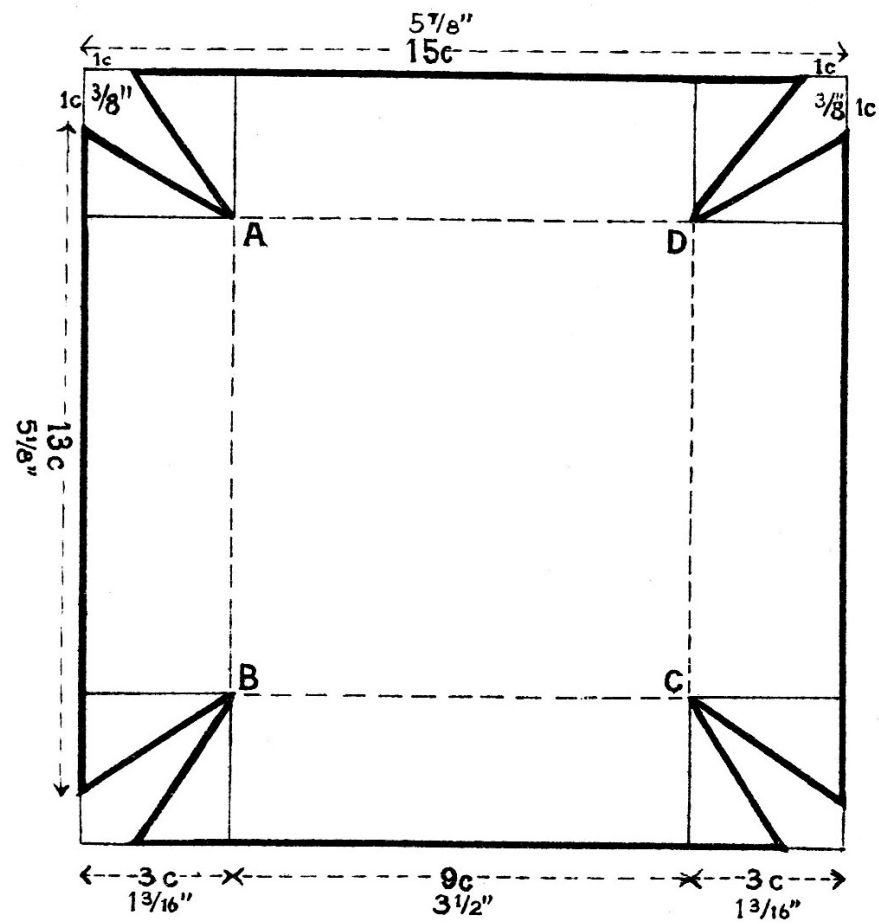
# CARDBOARD MODELLING

## MODEL No. 10

SQUARE TRAY—with sloping side

$$\begin{array}{l} \text{BASE } 9 \text{ c. x } 9 \text{ c.} \\ \text{UPPER EDGE } 13 \text{ c. x } 13 \text{ c.} \end{array} \left. \vphantom{\begin{array}{l} \text{BASE } 9 \text{ c. x } 9 \text{ c.} \\ \text{UPPER EDGE } 13 \text{ c. x } 13 \text{ c.} \end{array}} \right\} \times 3 \text{ c. SIDES}$$
$$\left( \begin{array}{l} 3 \frac{1}{2} \text{ in. x } 3 \frac{1}{2} \text{ in.} \\ 5 \frac{1}{8} \text{ in. x } 5 \frac{1}{8} \text{ in.} \end{array} \right) \left. \vphantom{\begin{array}{l} 3 \frac{1}{2} \text{ in. x } 3 \frac{1}{2} \text{ in.} \\ 5 \frac{1}{8} \text{ in. x } 5 \frac{1}{8} \text{ in.} \end{array}} \right\} \times 1 \frac{3}{16} \text{ in.}$$

1. Cut out a square of 15 c. ( $5 \frac{7}{8}$  in.)
2. Set off from each angle 3 c. ( $1 \frac{3}{16}$  in.) on each side, and draw lines across dotting the lines of the inner square.
3. From each angle set off 1 c. ( $\frac{3}{8}$  in.) on each side and draw lines to each point thus found from the angles of the inner square.
4. Cut out the corners neatly along the thick lines from *A, B, C, D*.
5. Cut gently along the dotted lines, half or three parts through.
6. Bend the sides backward from these cuts so that corners meet exactly.
7. Bind the outside corners.
8. Bind inside corners.
9. Bind the upper edge with one strip, cutting out so as to fit exactly.
10. Bind inside lower edge with separate strips.
11. Bind outside lower edge with separate strips so as to cover the lines of half-cuts.



Half size of Model

## *CARDBOARD MODELING*

### MODEL No. 11

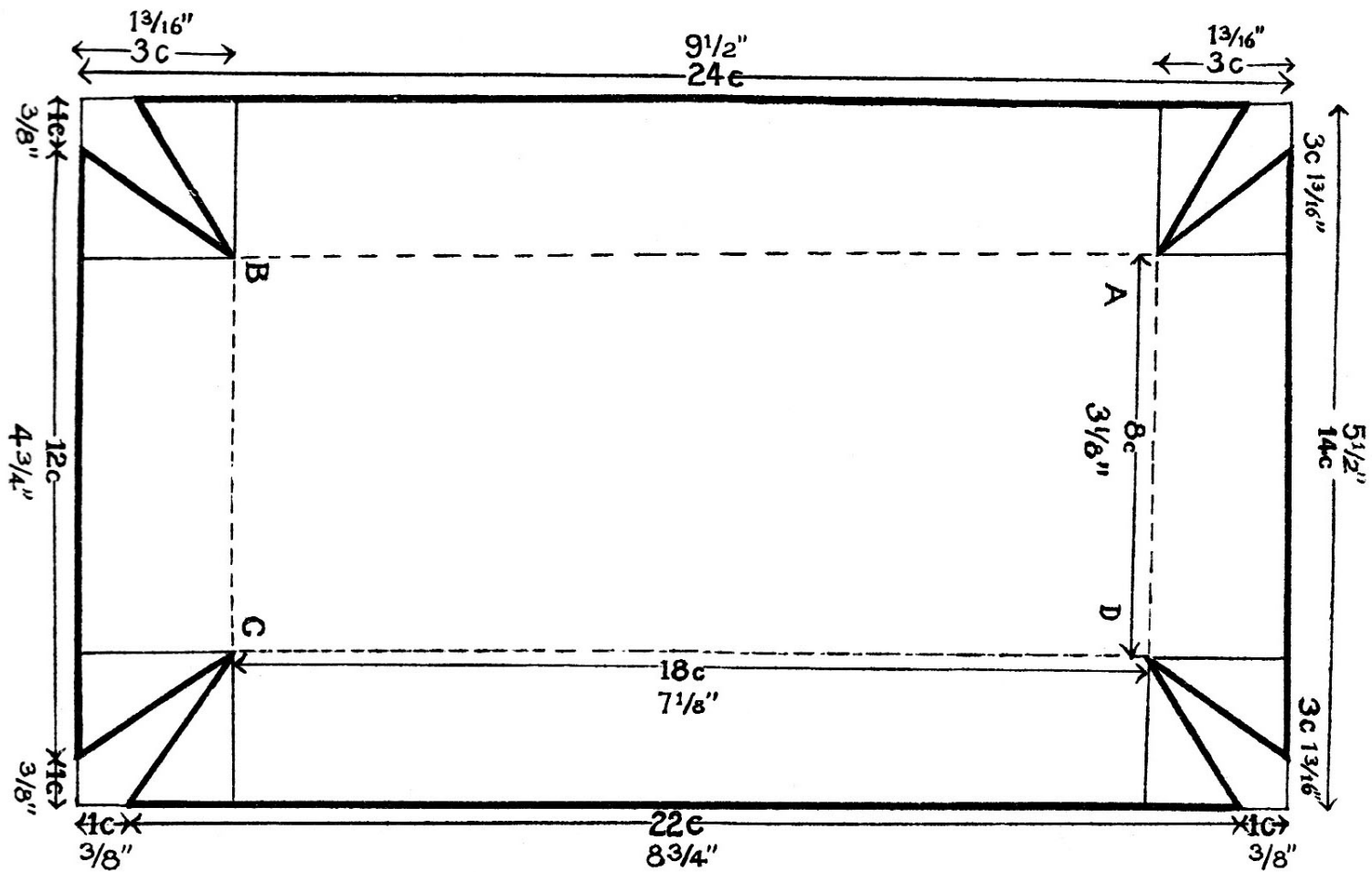
OBLONG TRAY—with sloping sides

TOP 22 c. x 12 c. ( $8\frac{3}{4}$  in. x  $4\frac{3}{4}$  in.)

BASE 18 c. x 8 c. ( $7\frac{1}{8}$  in. x  $3\frac{1}{8}$  in.)

SIDES 3 c. ( $1\frac{3}{16}$  in.)

1. Cut out an oblong 24 c. x 14 c. ( $9\frac{1}{2}$  in. x  $5\frac{1}{2}$  in.)
2. Set off 3 c. ( $1\frac{3}{16}$  in.) from each angle along each side.
3. Rule lines from these points, so as to mark off the base of the tray 18 c. x 8 c. ( $7\frac{1}{8}$  in. x  $3\frac{1}{8}$  in.) *A, B, C, D*.
4. Set off from each angle 1 c. ( $\frac{3}{8}$  in.) on each side and draw lines to these points from *A, B, C, D*.
5. Cut out the corners neatly along the thickened lines.
6. Cut gently along the dotted lines (describing the bottom of the tray) half or three parts through.
7. Bend the sides and ends backward from the cuts, and fit corners neatly, so as to meet and not overlap.
8. Bind the outside corners.
9. Bind the inside corners.
10. Bind the upper edge with one strip, fitting neatly in inside of each corner.
11. Bind inside lower edge with separate strips fitting exactly along the line of junction.
12. Bind outside lower edge with separate strips so as to cover lines of half-cuts.



Half size of Model

## *CARDBOARD MODELLING*

### MODEL No. 14a

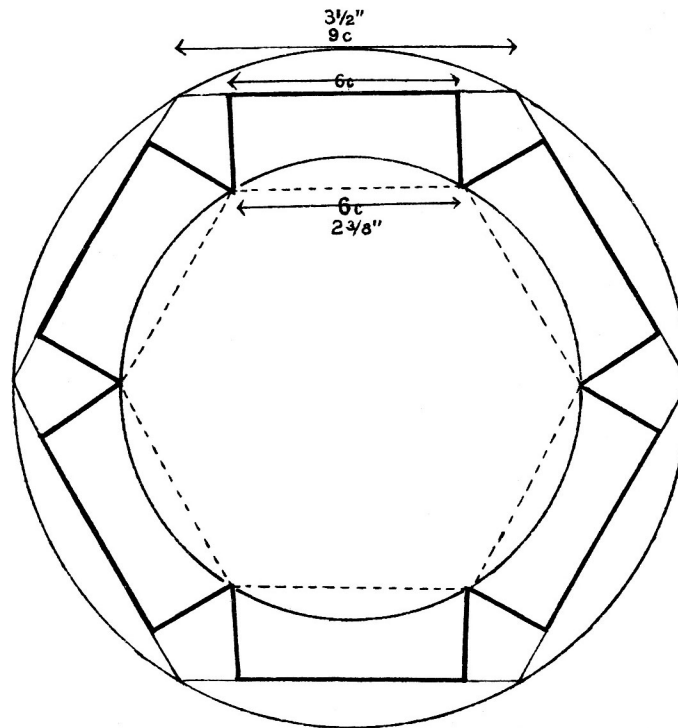
#### HEXAGONAL TRAY—with Perpendicular Sides

9 c. RADIUS, UPPER EDGE ( $3 \frac{1}{2}$  in.)

6 c. RADIUS, BASE ( $2 \frac{3}{8}$  in.)

3 c. SIDES ( $1 \frac{1}{8}$  in.)

1. Describe two concentric circles—inner circle with a radius of 6 c. ( $2 \frac{3}{8}$  in.), outer 9 c. ( $3 \frac{1}{2}$  in.).
2. Inscribe hexagon in inner circle with 6 c. sides, and within outer circle a circumscribing hexagon of 9 c., by producing lines through opposite angles of inner hexagon.
3. Set off  $1 \frac{1}{2}$  c. from each angle of the outer hexagon, by drawing lines through each angle of the inner hexagon and the next alternate angle.
4. Cut out along thickened lines, neatly and with clean angles.
5. Cut half or three parts through along the dotted lines of the inner hexagon.
6. Bend backward from the cuts, and fit neatly at the angles.
7. Bind outside angles.
8. Bind inside angles.
9. Bind upper edge with separate strips exactly meeting at lines of juncture.
10. Bind inside lower edge with separate strips fitting neatly at the angles.
11. Bind outside lower edge with separate strips fitting evenly along lines of juncture, and on lines from each angle to opposite angle along the base.



Half size of Model

## APPENDIX

*Consisting of Drawings of Geometrical Models suitable for construction by Upper Classes, and for use in Model Drawing.*

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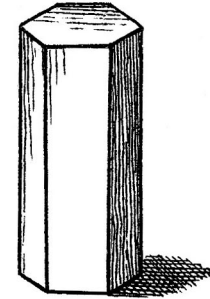
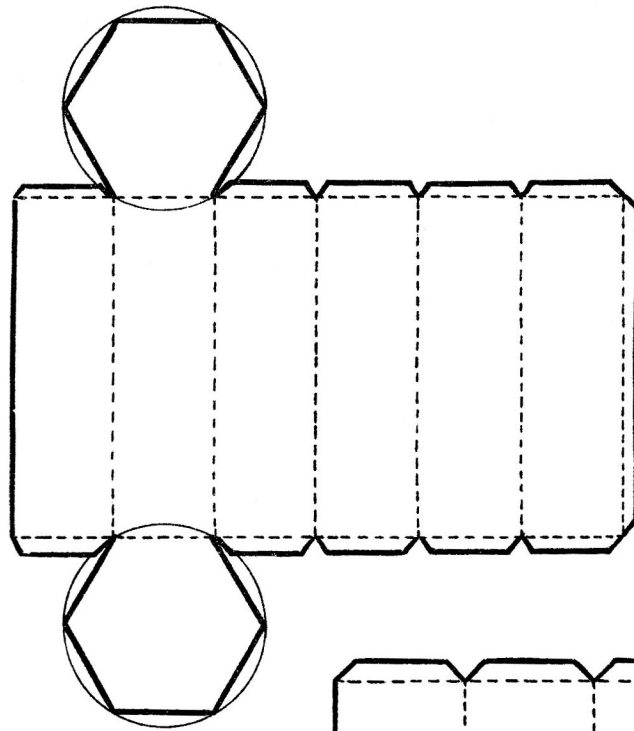
This appendix consists of geometrical drawings of models suitable for construction by children of upper standards, and by teachers for use in the model drawing lessons.

The flaps which are shown outside the dotted lines of half-cuts are intended for folding backwards over the lines of juncture and to be glued firmly down. These may, if preferred, be mostly disregarded, especially if the small models are being made, and the binding be performed, as in the *Manual*, by separate strips.

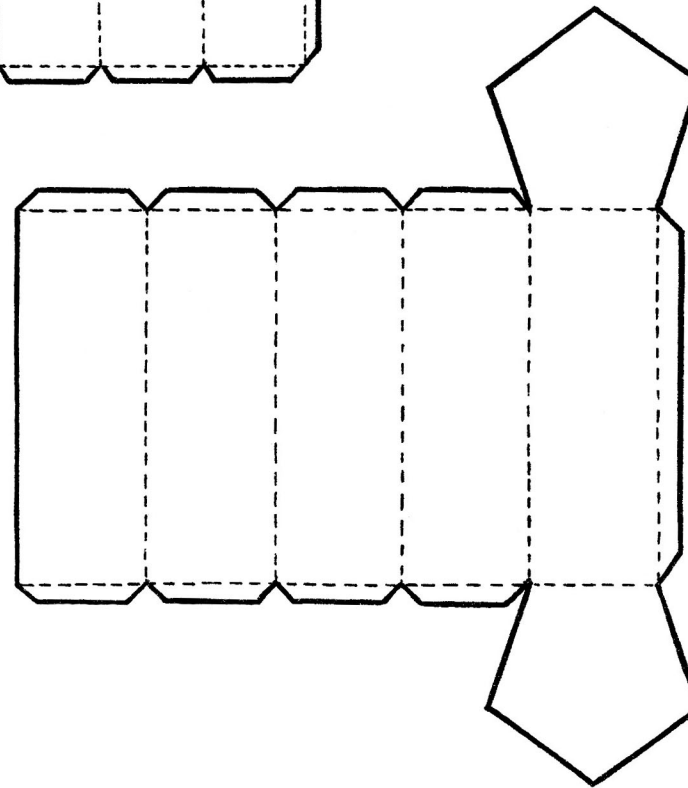
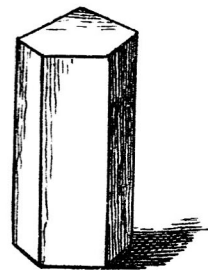
Sketches of the models are appended in order to give the pupil a clearer idea of the nature of the objects, and to facilitate their construction.

Definite measures are not given, these being left to the discretion of the teacher, and depend upon the character of the pupils and the purpose for which the completed models are intended.

If the work is being taken by children the objects should be small; *e.g.* in the first model the hexagons might have  $1\frac{1}{4}$  in sides, and the prism be  $3\frac{3}{4}$  in. long in proportion. If the objects are to be used as drawing models, much longer measures must be adopted. The proportional sizes of the different parts of each model are indicated by the drawings themselves.



No. 1 - Hexagonal Prism



No. 2 - Pentagonal Prism