

# (1) Cube

## Instructions

Print this page on stiff paper

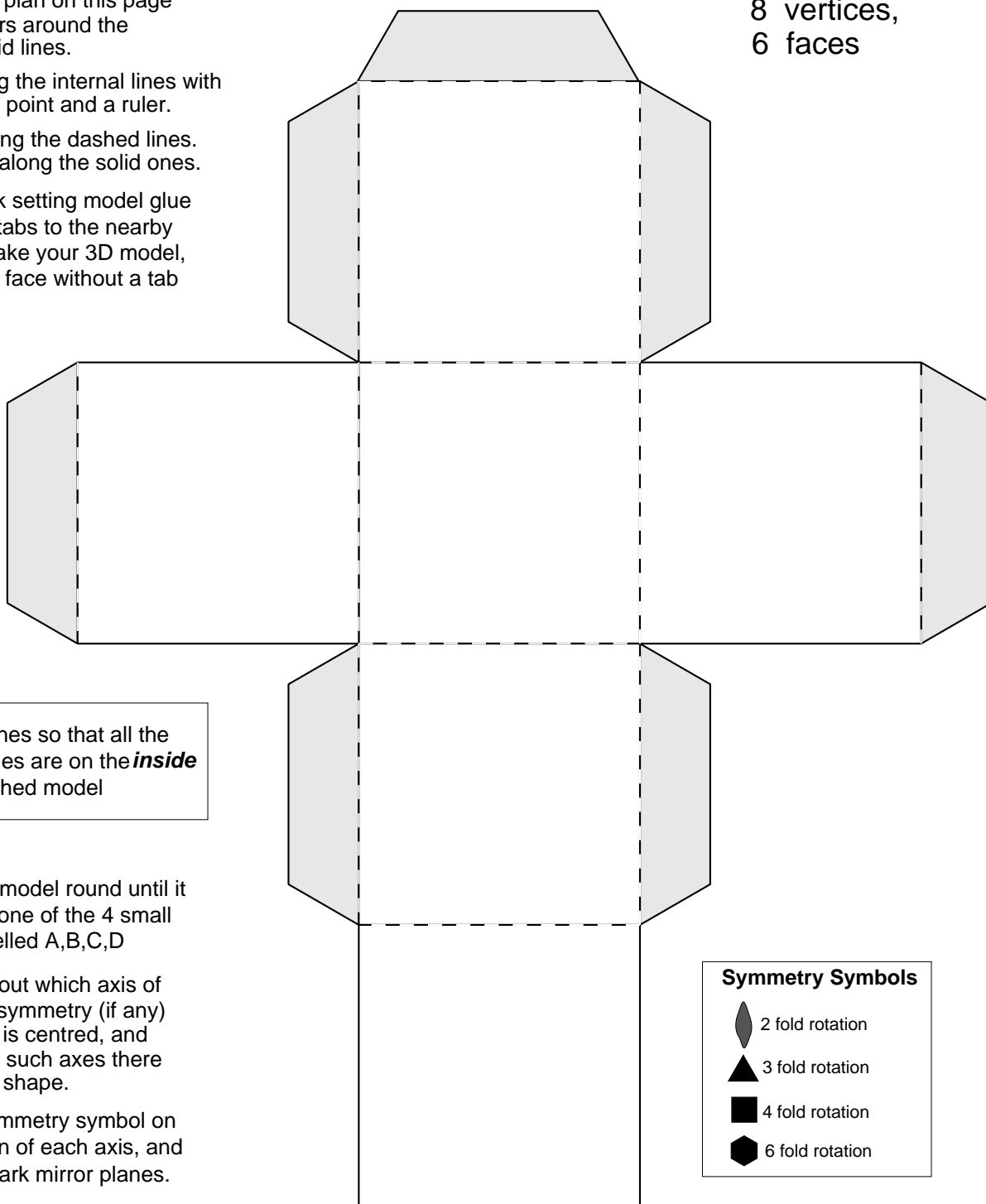
Cut out the plan on this page with scissors around the outside solid lines.

Score along the internal lines with a compass point and a ruler.

Fold up along the dashed lines. Fold down along the solid ones.

Use a quick setting model glue to join the tabs to the nearby faces to make your 3D model, leaving the face without a tab until last.

8 vertices,  
6 faces







Fold the lines so that all the printed lines are on the *inside* of the finished model

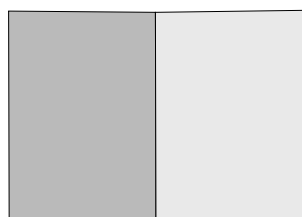
Turn your model round until it looks like one of the 4 small views labelled A,B,C,D

Decide about which axis of rotational symmetry (if any) each view is centred, and how many such axes there are in this shape.

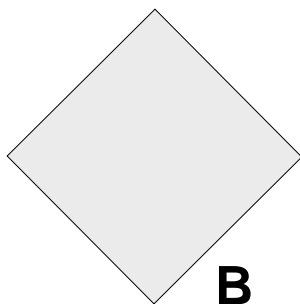
Draw a symmetry symbol on the position of each axis, and a line to mark mirror planes.

### Symmetry Symbols

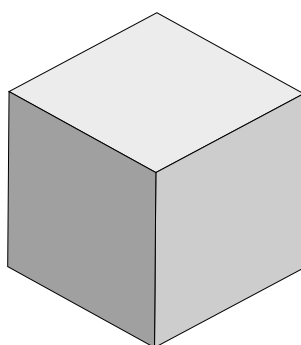
-  2 fold rotation
-  3 fold rotation
-  4 fold rotation
-  6 fold rotation



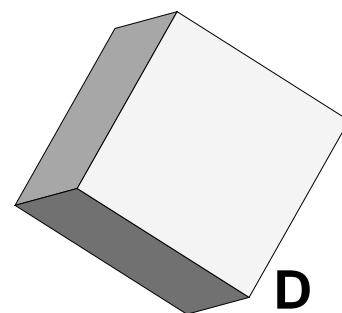
**A**



**B**



**C**



**D**

# (2) Octahedron

## Instructions

Print this page on stiff paper

Cut out the plan on this page with scissors around the outside solid lines.

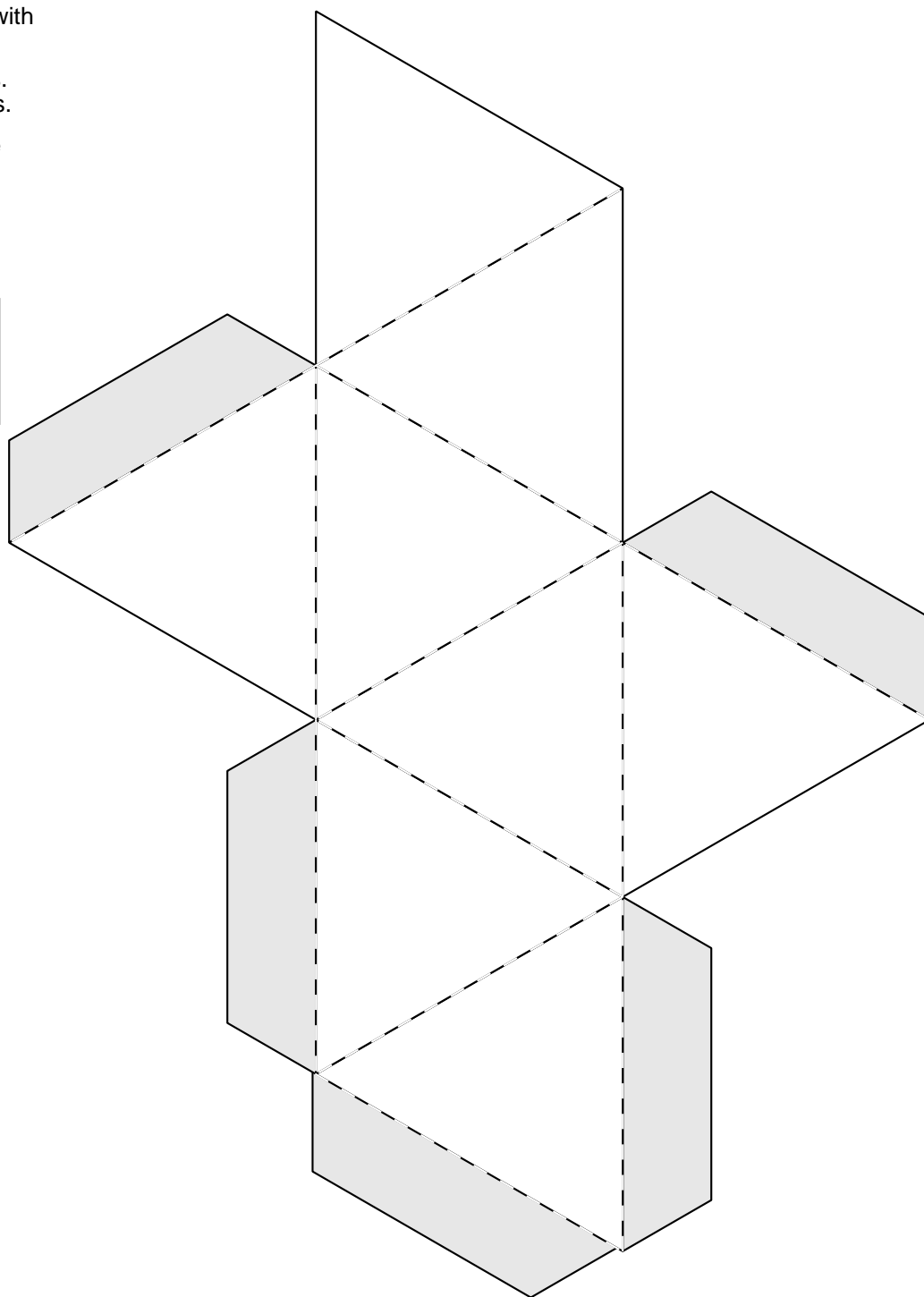
Score along the internal lines with a compass point and a ruler.

Fold up along the dashed lines.  
Fold down along the solid ones.

Use a quick setting model glue to join the tabs to the nearby faces to make your 3D model, leaving the face without a tab until last.

6 vertices,  
8 faces

Fold the lines so that all the printed lines are on the *inside* of the finished model







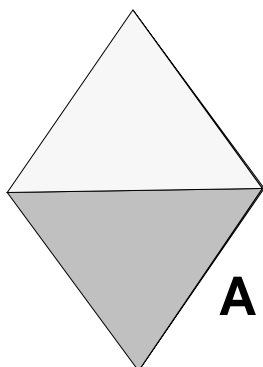
Turn your model round until it looks like one of the 4 small views labelled A,B,C,D

Decide about which axis of rotational symmetry (if any) each view is centred, and how many such axes there are in this shape.

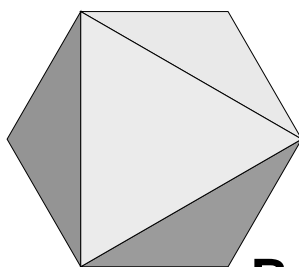
Draw a symmetry symbol on the position of each axis, and a line to mark mirror planes.

### Symmetry Symbols

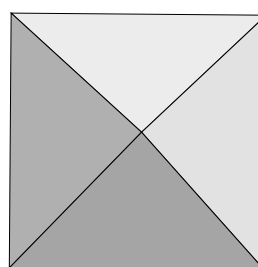
-  2 fold rotation
-  3 fold rotation
-  4 fold rotation
-  6 fold rotation



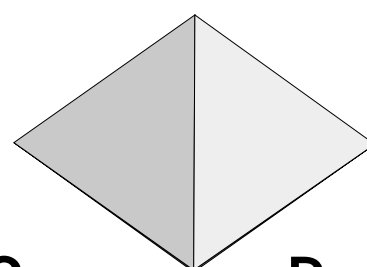
**A**



**B**



**C**



**D**

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<http://www.argonet.co.uk/users/fortran/Models/models.htm>

# Truncated octahedron

## Instructions

Print this page on stiff paper

Cut out the plan on this page with scissors around the outside solid lines.

Score along the internal lines with a compass point and a ruler.

Fold up along the dashed lines. Fold down along the solid ones.

Use a quick setting model glue to join the tabs to the nearby faces to make your 3D model, leaving the face without a tab until last.


Fold the lines so that all the printed lines are on the *inside* of the finished model


Turn your model round until it looks like one of the 4 small views labelled A,B,C,D


Decide about which axis of rotational symmetry (if any) each view is centred, and how many such axes there are in this shape.


Draw a symmetry symbol on the position of each axis, and a line to mark mirror planes.

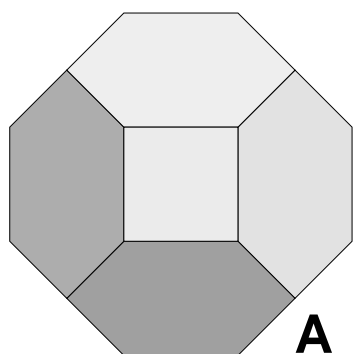
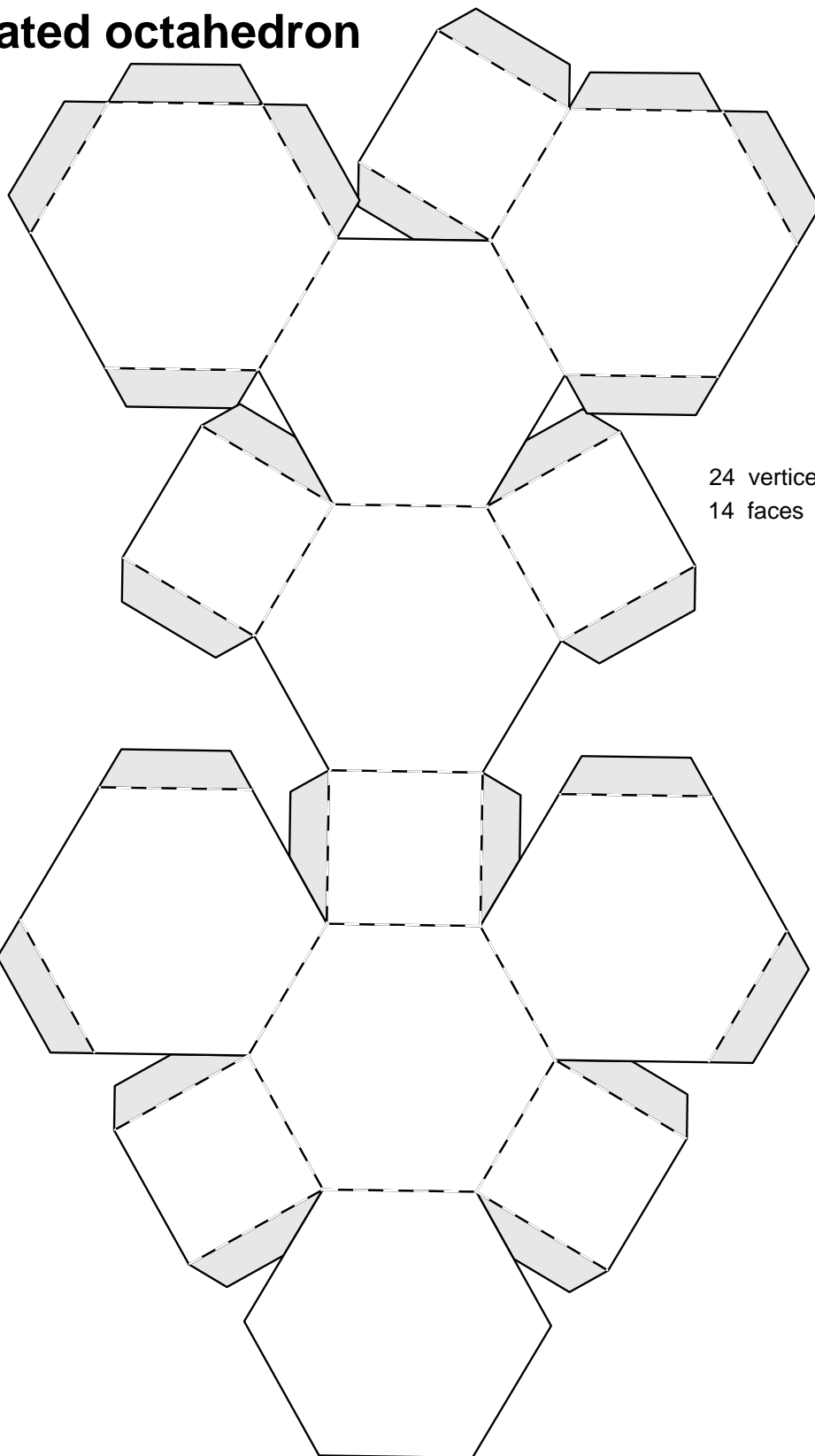
### Symmetry Symbols

 2 fold rotation

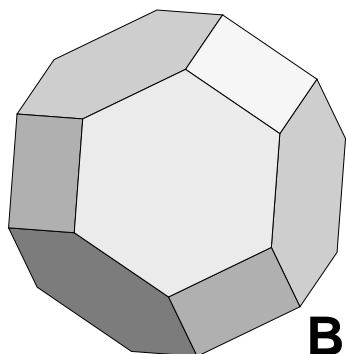
 3 fold rotation

 4 fold rotation

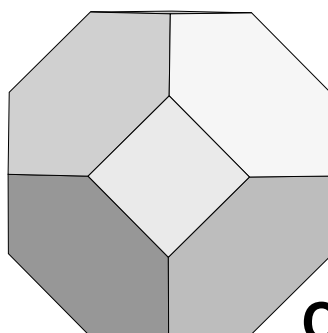
 6 fold rotation



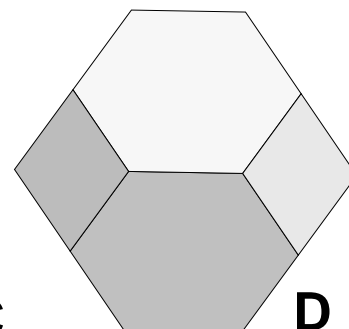
**A**



**B**



**C**



**D**

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<http://www.argonet.co.uk/users/fortran/Models/models.htm>

# (5) Rhombic dodecahedron

## Instructions

Print this page on stiff paper

14 vertices,  
12 faces

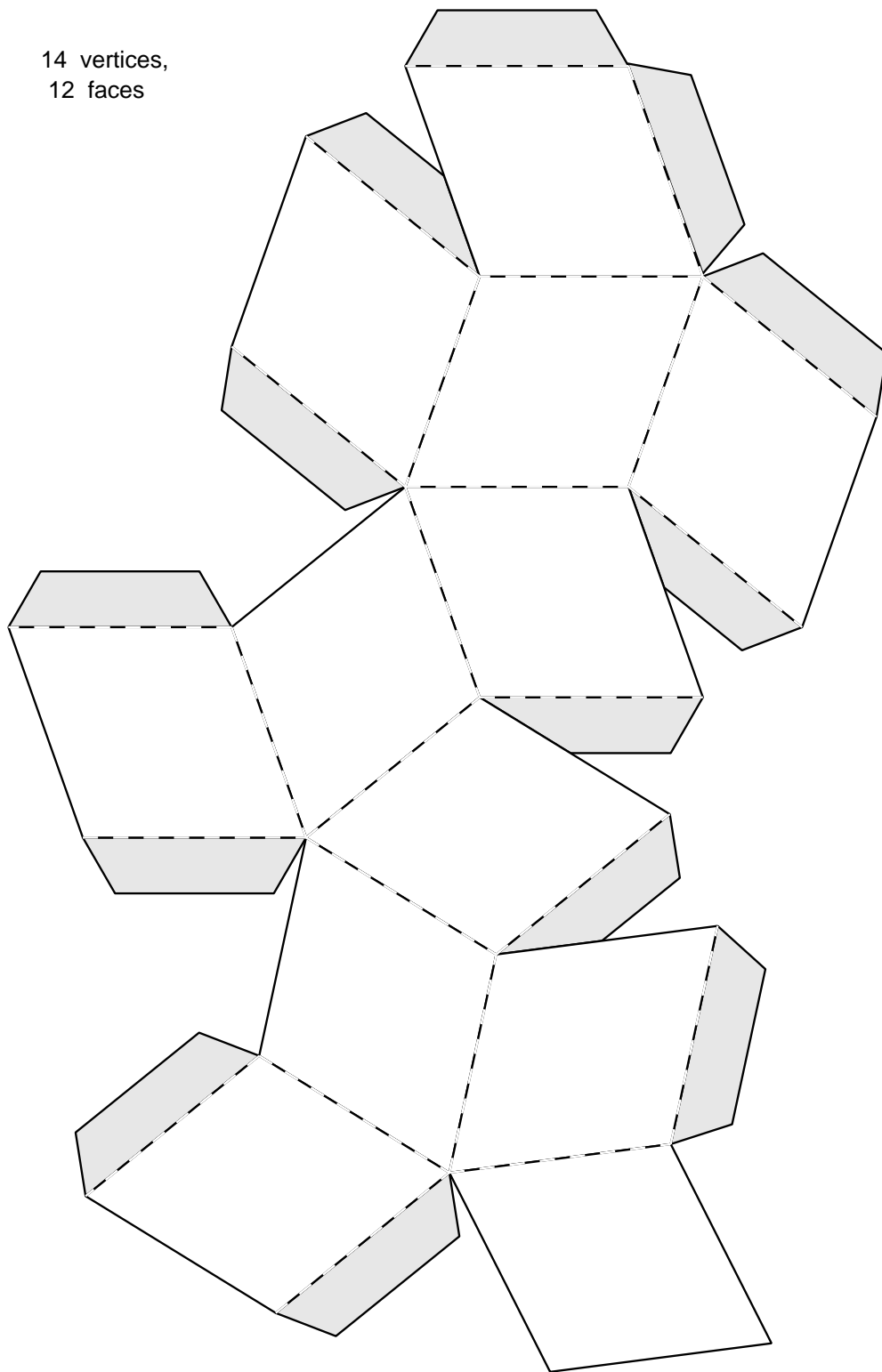
Cut out the plan on this page with scissors around the outside solid lines.

Score along the internal lines with a compass point and a ruler.





Fold up along the dashed lines.  
Fold down along the solid ones.

Use a quick setting model glue to join the tabs to the nearby faces to make your 3D model, leaving the face without a tab until last.

Fold the lines so that all the printed lines are on the *inside* of the finished model



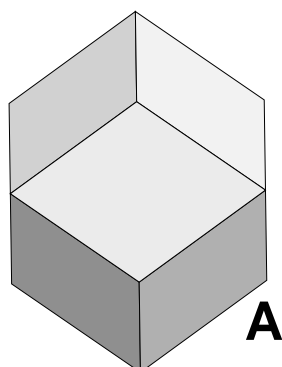
## Symmetry Symbols

-  2 fold rotation
-  3 fold rotation
-  4 fold rotation
-  6 fold rotation

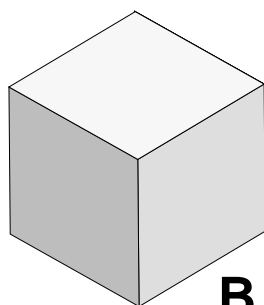
Turn your model round until it looks like one of the 4 small views labelled A,B,C,D

Decide about which axis of rotational symmetry (if any) each view is centred, and how many such axes there are in this shape.

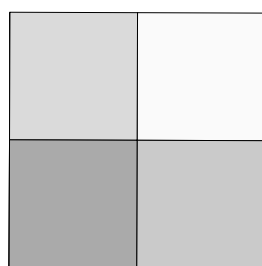
Draw a symmetry symbol on the position of each axis, and a line to mark mirror planes.



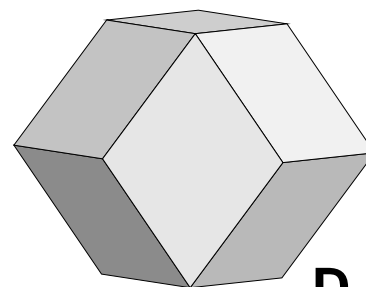
**A**



**B**



**C**



**D**

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<http://www.argonet.co.uk/users/fortran/Models/models.htm>

# (41) Compound of 2 cubes, a twinned crystal

## Instructions

Print this page on stiff paper

Cut out the plan on this page with scissors around the outside solid lines.

Score along the internal lines with a compass point and a ruler.

Fold up along the dashed lines.  
Fold down along the solid ones.

Use a quick setting model glue to join the tabs to the nearby faces to make your 3D model,

For this model join tabs A first to make the tetrahedra for the two halves.

Then join one of the tabs B

Then join tabs C, which are the ones which hold the 2 halves together.

Join the other tab B last.

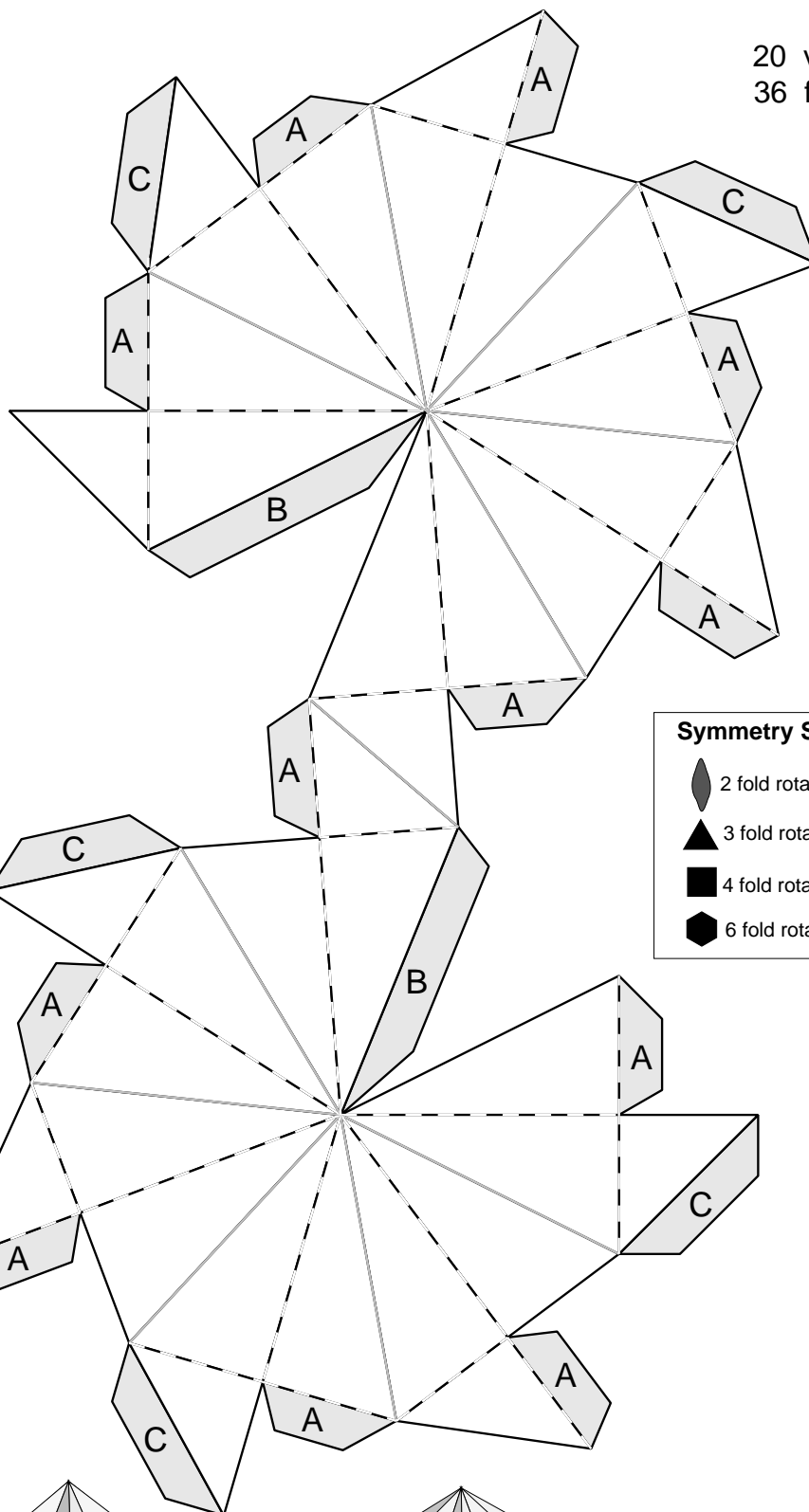
Fold the lines so that all the letters are on the *inside* of the finished model

Turn your model round until it looks like one of the 4 small views labelled A,B,C,D





Decide about which axis of rotational symmetry (if any) each view is centred, and how many such axes there are in this shape.

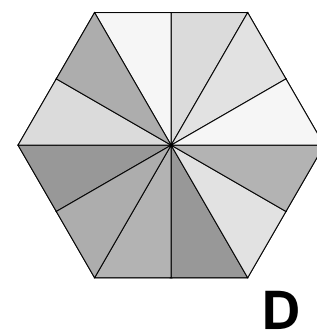
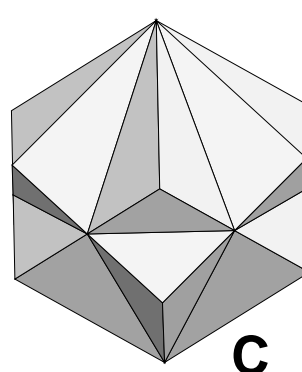
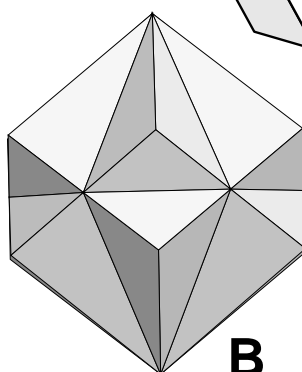
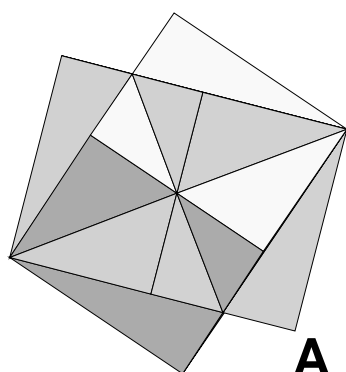
Draw a symmetry symbol on the position of each axis, and a line to mark mirror planes.

20 vertices  
36 faces



**Symmetry Symbols**

-  2 fold rotation
-  3 fold rotation
-  4 fold rotation
-  6 fold rotation



**A**

**B**

**C**

**D**