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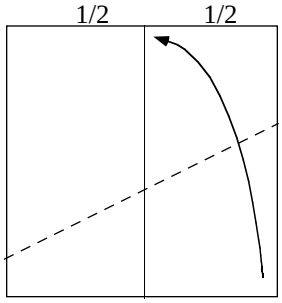
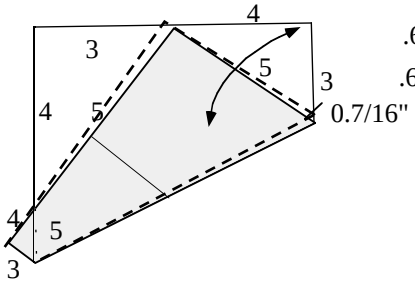
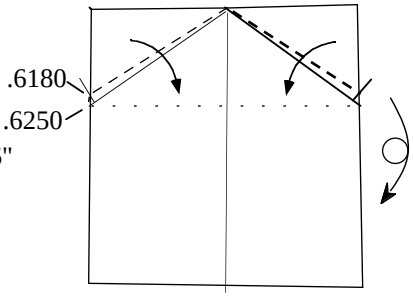
Improved Easy Pentagon



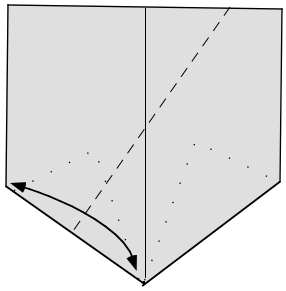
1. Start with a square paper uncolored side up, creased vertically in half. Fold the lower righthand corner to the top of the center line.



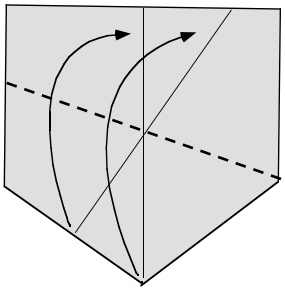
2. This shows Kazuo Haga's three 3x4x5 right triangles. Calculate the error in using Haga's 3x4x5 triangle by taking .6250 - .6180 = .0070 and multiplying by the size of the paper (6.25 inches) and multiply by 16 to get the error in 16th of an inch. This turns out to be 0.7. Locate the end of the shortened line and pull the corner beyond the top of the paper. Also only crease the top half inch or so of the diagonal line to avoid unnecesary creases.



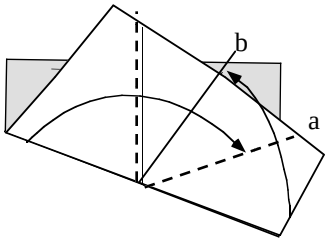
3. Ian Harrison's double 3x4x5 right triangles can be used as two sides of a pentagon. The angle between the two sides is equal to 106.26 degrees and is an approximation of 108 degrees,. the true value. Fold in the two top corners using the shortened lines on both sides. This should increase the angle between the two lines to close to 108°, the true value. Then flip the paper upside down.



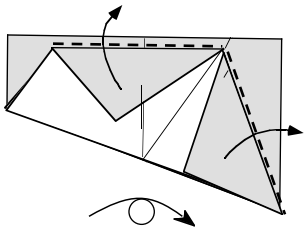
4. Fold the left side lower edge in half and unfold making a diagonal crease.



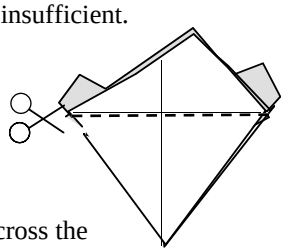
5. Fold the lower half starting at the end of the lower right corner through the central crosspoint, with the lower corner ending on the diagonal line and the diagonal line on the center line. The edge is parallel to the upper edge. If the lower corner does not meet the diagonal line, it probably means that the initial correction was insufficient.



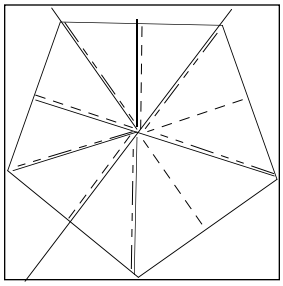
6. Fold over the two corner flaps. Then flip the paper over horizontally to allow showing the horizontal cut lines on both sides after the next folding is completed.



7. a. Fold the right lower corner to the nearest center line. b. Then fold over the left edge to meet the folded right edge. Check to see that the horizontal lines in front and back coincide.



8. Fold or cut across the horizontal lines in front and back.



9. The **Improved Easy Pentagon** based on the work of Kazuo Haga and Ian Harrison.

10. To fold the bird base or frog base mountain fold the lines from the center to the corners and valley fold the lines to the sides. Then flip the paper over to the colored side.