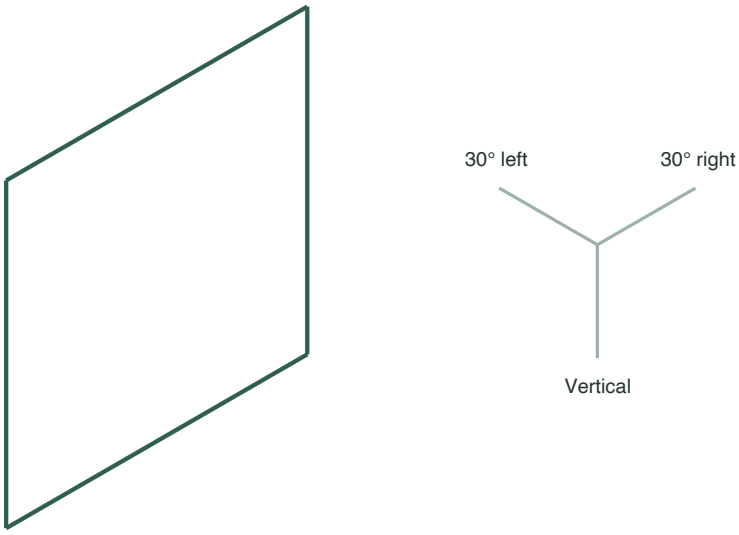
# Draw Isometric Octagon

Answer | Task 1 of 4 | LETTER

## Original prompt

Task 1: Draw only the isometric square frame, labelling the three edge directions.




## Answer

The vertical and rising-right directions form the isometric square. Identify both of them and label the rising-left direction on a separate axis guide.

## Reasoning

Each side of the square lies in the plane defined by two axes. The third labelled axis is a direction guide outside the frame.

## Check

Check opposite pairs are parallel and the two sets of frame sides use the intended directions. The axis guide should show all three directions.

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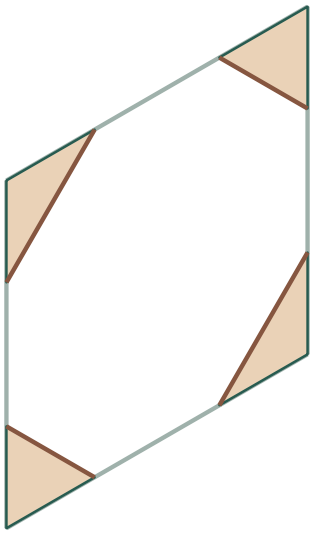
## Original prompt

Task 2: Add the four corner cut lines to the frame and shade the triangles to be removed.



## Answer

Join the equal fractional trim marks on the two sides meeting at each corner. Shade the four resulting triangles outside the eight-sided outline.

## Reasoning

A square has two perpendicular diagonal directions. Applying the isometric projection carries the two directions into different page slopes, so cuts in adjacent corners differ in slope.

## Check

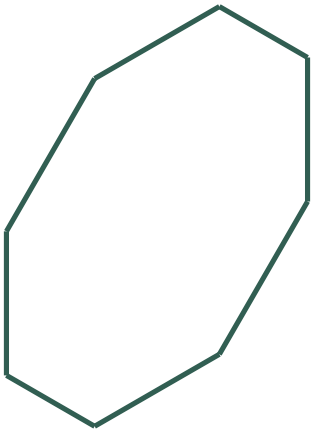
Check all eight trim marks are at the same fraction of their frame sides. The cuts at opposite corners should be parallel.

# Draw Isometric Octagon



## Original prompt

Task 3: Complete the octagon by removing the shaded triangles and drawing the final eight-sided outline.



## Answer

Remove the four shaded triangles and keep the eight-sided outline formed by the four retained side portions and four diagonal cuts.

## Reasoning

Each corner cut removes an end portion from each of its two adjoining frame sides and creates one new edge. Together the four cuts leave the central part of all four frame sides and their four diagonal connectors.

## Check

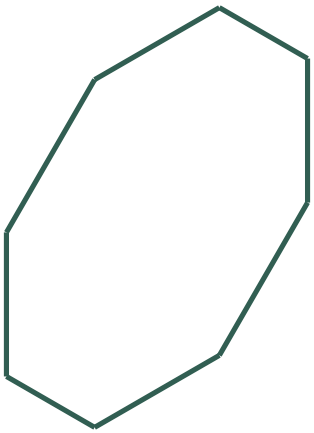
Count eight edges and check that every cut joins its two marks. Check opposite edges are parallel; the diagonals need not match axis slopes.

# Draw Isometric Octagon

Answer | Task 4 of 4 | LETTER

## Original prompt

Task 4: Redraw the finished isometric octagon from memory on a blank sheet, then compare it with the reference plate.



## Answer

A freehand copy with eight connected sides and matching opposite pairs. After drawing, compare the two frame directions and the two alternating diagonal directions with the reference.

## Reasoning

A redraw shows you can reconstruct the order of the eight sides and the alternating corner direction without tracing.

## Check

Count the sides, compare the slopes of the opposite pairs, and confirm the two corner-cut directions alternate.