Drawing Paper and Fabric Folds: Crease and Overlap Construction

Original task 1 / complete key

Task 1

Use a face-up 8 cm square with origin at the lower-left corner, x measured right and y upward. Label the original quadrants TL, TR, BL, and BR on the face toward you. First fold the right half leftward toward the viewer over the left half along x=4. Then, without unfolding, lift the entire top packet as one unit and fold it downward toward the viewer over the bottom packet along y=4. Record the final front-to-back order of the four original quadrants. Draw the two creases and compression arrows, show visible boundaries solid, and note where original edges are hidden beneath coincident folded edges. Use dashed strokes only for hidden edges at distinct coordinates; do not draw a duplicate on a coincident boundary.

Answer: Mark creases x=4 and y=4. After folding the right half toward you over the left, the top packet is [TR, TL] from front to back and the bottom packet is [BR, BL]. Now fold the complete top packet downward toward you over the bottom packet. Turning the packet over reverses its internal order to [TL, TR]; it lands in front of the unchanged bottom packet [BR, BL]. The final front-to-back order is therefore [TL, TR, BR, BL]. The fold maps x=8 to x'=0, exactly where the original left edge lies, and maps y=8 to y'=0, where the original bottom edge lies. Draw each coincident outer boundary once as solid, with no dashed duplicate; the hinges x=4 and y=4 remain the visible creases. Draw one arrow left toward x=4 and one down toward y=4.

Reason: The first fold places TR in front of TL in the upper packet and BR in front of BL in the lower packet. The second fold moves the entire two-layer upper packet over the lower packet and turns it over, reversing the upper packet order from [TR, TL] to [TL, TR]. The lower packet stays [BR, BL], so concatenating the stacks gives [TL, TR, BR, BL]. Coordinate reflections x'=8−x and y'=8−y put the original right and top outer edges on the left and bottom boundaries, respectively; each coincident boundary is drawn once.

Check: After fold one, verify upper stack [TR, TL] and lower stack [BR, BL], each listed front to back. Fold the whole upper packet downward toward the viewer as one unit; verify its order flips to [TL, TR], then sits above [BR, BL]. The final order must read [TL, TR, BR, BL]. Check x=8→0 and y=8→0, with one solid boundary at each coincident outer edge, no dashed duplicate, creases at x=4 and y=4, and arrows pointing toward their creases.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Original task 2 / complete key

Task 2

Draw a jacket sleeve fold in a rectangle 5 cm wide horizontally by 12 cm high vertically (hypothetical). Use the upper-left corner as the origin, x increasing right and y increasing down. Draw the shared ridge/boundary horizontally from (0,6) to (5,6), halfway down. The lower half (y=6..12) bunches in front of the upper half (y=0..6). Draw the ridge as one solid line and two separate, lighter solid valley guides at y=5.5 and y=6.5. Add one compression arrow from (2.5,9) upward toward (2.5,6). The lower/front edge and the upper/behind edge coincide along y=6; draw that shared location once as solid, with no dashed duplicate. No separate hidden path is specified; use dashes only for a distinct hidden path if you add one.

Answer: Draw the sleeve panel with x=0..5 cm horizontally and y=0..12 cm vertically, origin at its upper-left corner. Mark the ridge horizontally from (0,6) to (5,6), exactly halfway down. Label the upper area y=0..6 “behind” and the lower area y=6..12 “front.” The lower/front boundary and upper/behind boundary occupy the same y=6 coordinates, so show the shared ridge once as a solid stroke; do not add a dashed copy. Draw lighter solid valley guides at y=5.5 and y=6.5, which are distinct from the ridge. Draw one arrow upward from (2.5,9) to (2.5,6). This schematic specifies no separate hidden edge, so no dashed line is needed.

Reason: The rectangle is 5 cm wide and 12 cm high, so the horizontal line 6 cm below its top is the true midpoint. The front lower region and rear upper region meet at the same ridge coordinates, (x,6) for $0 \le x \le 5$; the rear edge is directly occluded under the visible ridge rather than following a distinct path. One solid stroke therefore represents the coincident boundary, while the lighter valley guides at y=5.5 and 6.5 remain separate lines. The arrow starts in the lower/front region and points upward toward the crease.

Check: Confirm the panel is 5 cm wide by 12 cm high with x horizontal and y downward. Check that the single solid ridge spans (0,6) to (5,6), halfway down; the upper region is labeled behind and the lower region front. Confirm two lighter solid valley guides sit at y=5.5 and y=6.5, and the arrow points upward from (2.5,9) to (2.5,6). The coincident front and covered boundaries share the ridge coordinates, so there must be one solid line and no dashed duplicate; no distinct hidden path is specified.

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Original task 3 / complete key

Task 3

Draw crumpled paper on a 9 cm by 9 cm square (hypothetical). Crease one runs from the top-left corner to the center, crease two from the center to the top-right corner, and crease three from the center (4.5,4.5) to the bottom midpoint (4.5,0). The top triangular region is front-most; label it “front” and label the lower regions “behind.” Draw the three visible creases as solid lines and add three compression arrows. These shared crease boundaries have no separate hidden-edge paths, so do not add dashed duplicates; use a dashed line only if you specify a distinct hidden path.

Answer: Draw the square lightly, mark its center, and draw three solid creases: top-left to center, center to top-right, and center (4.5,4.5) to the bottom midpoint (4.5,0). Label the top triangle “front” and the two lower regions “behind.” Because each described region boundary lies on one of the visible crease lines, draw each crease once as solid; do not place a dashed copy along it. No distinct hidden-edge path is defined for this example, so no dashed strokes are needed. Add three arrows along the creases pointing toward the center.

Reason: The labels record the requested layer order. The three region boundaries coincide with visible creases, so duplicating them as dashed hidden edges would violate the stated line convention. A dashed stroke would be appropriate only for a separately located hidden edge.

Check: Count three creases meeting at the center and three arrows pointing toward it. Confirm the top triangle is labeled front, the lower regions behind, all shared creases are single solid strokes, and no dashed duplicate is drawn.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Original task 4 / complete key

Task 4

Draw a single crease on a 14 cm by 7 cm fabric rectangle (hypothetical). The crease/ridge runs horizontally 4 cm below the top edge. The top part overlaps the bottom part. Show the soft ridge solid, a separate lighter valley line, and one compression arrow. The top-front and bottom-hidden boundaries coincide at the ridge, so draw one solid line there and no dashed duplicate; use dashed strokes only for a distinct hidden path.

Answer: Draw the 14 cm by 7 cm rectangle, the solid soft ridge 4 cm below the top edge, and a separate lighter valley line just above the ridge. Label the top part “front” and bottom part “behind.” Their boundaries coincide at the ridge, so show the fold once as a solid line and omit a dashed duplicate. No separate hidden path is specified. Point one compression arrow downward toward the ridge.

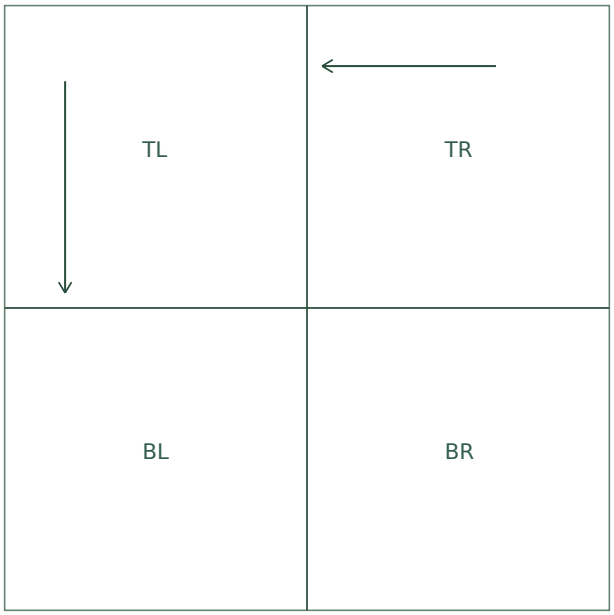
Reason: The top part is in front, but the stated front and hidden boundaries occupy the same crease location. The shared visible ridge is drawn once as solid; a dashed stroke would be reserved for a distinct hidden edge.

Check: Measure the ridge 4 cm from the top edge. Confirm the valley is a separate lighter line, the region labels match the prompt, the arrow points toward the ridge, and no dashed duplicate lies on the crease.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Task 1 / answers

Paper/fabric fold construction / physical mm print 1:1 / no coincident dashed duplicates



Fold 1 / upper [TR, TL]; lower [BR, BL]

Fold 2 / flip whole upper packet: [TR, TL] -> [TL, TR]

FINAL front -> back: TL / TR / BR / BL



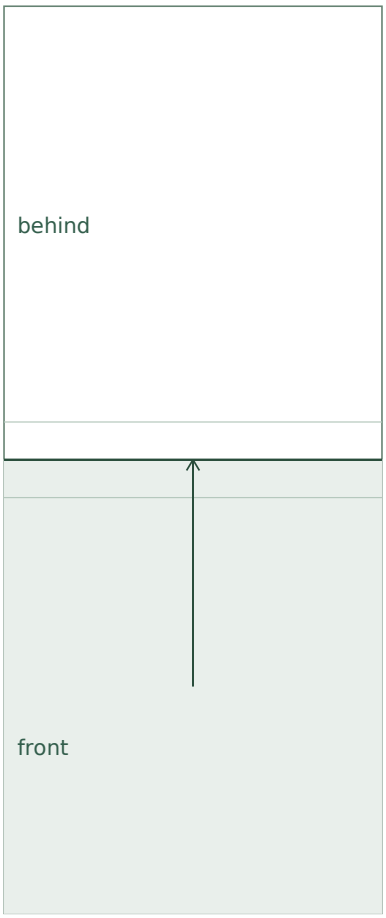
TL / front | TR | BR | BL / back

Solid marks the visible shared crease/boundary once. No separate hidden path is specified in these four diagrams, so no dashed duplicate is added. Light filled areas identify the requested front region, not lighting. The sequential packet key reverses the complete moving packet before placing it in front of the receiving packet.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Task 2 / answers

Paper/fabric fold construction / physical mm print 1:1 / no coincident dashed duplicates

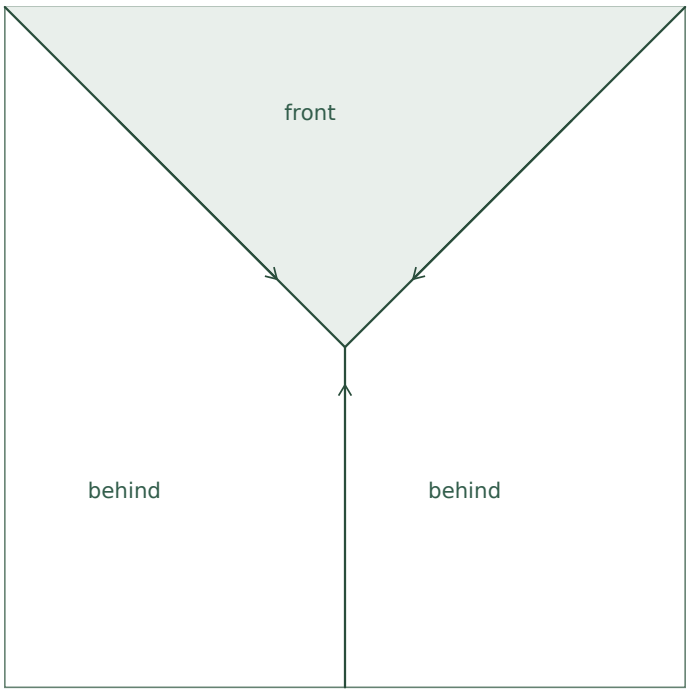


Solid marks the visible shared crease/boundary once. No separate hidden path is specified in these four diagrams, so no dashed duplicate is added. Light filled areas identify the requested front region, not lighting. The sequential packet key reverses the complete moving packet before placing it in front of the receiving packet.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Task 3 / answers

Paper/fabric fold construction / physical mm print 1:1 / no coincident dashed duplicates

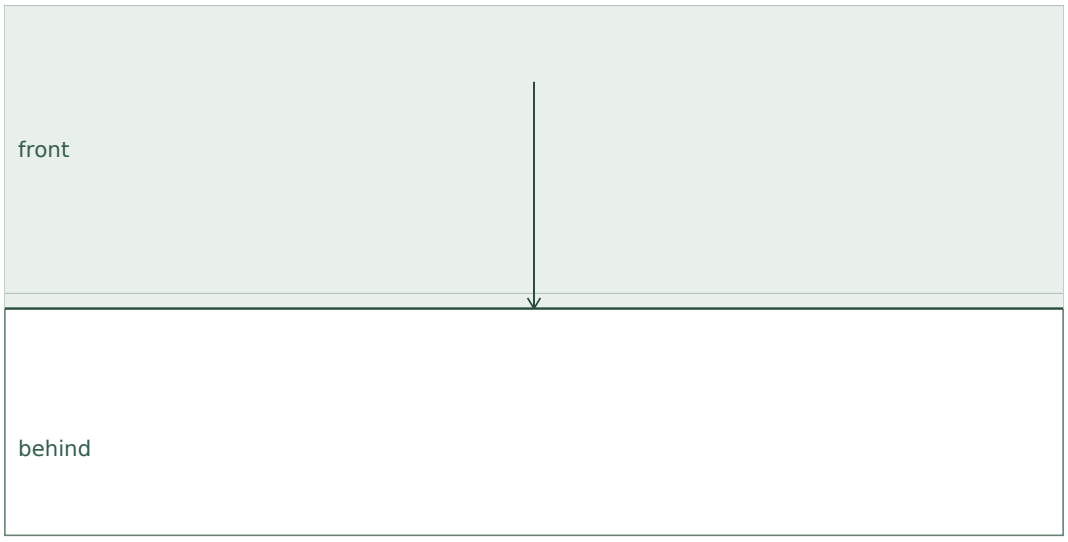


Solid marks the visible shared crease/boundary once. No separate hidden path is specified in these four diagrams, so no dashed duplicate is added. Light filled areas identify the requested front region, not lighting. The sequential packet key reverses the complete moving packet before placing it in front of the receiving packet.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Task 4 / answers

Paper/fabric fold construction / physical mm print 1:1 / no coincident dashed duplicates



Solid marks the visible shared crease/boundary once. No separate hidden path is specified in these four diagrams, so no dashed duplicate is added. Light filled areas identify the requested front region, not lighting. The sequential packet key reverses the complete moving packet before placing it in front of the receiving packet.

Drawing Paper and Fabric Folds: Crease and Overlap Construction

Source rubric / reflection

- [ ] Creases and overlap boundaries are labeled; where they coincide, the shared location is drawn once as solid.
- [ ] Visible creases/front boundaries are solid; dashed strokes appear only for distinct hidden-edge paths on separate coordinates.
- [ ] Compression arrows point toward the crease and match the overlap logic.
- [ ] No dashed hidden edge crosses or duplicates a solid front edge.
- [ ] Paper creases are crisp; fabric creases are softer with ridge and valley lines.
- [ ] The drawing can be checked by counting creases and overlaps against the reference.
- [ ] Valid alternative line styles are accepted if the solid, dashed, and arrow convention is consistent.
- [ ] For sequential folds, the final front-to-back order follows the physical fold sequence; a packet turned over as a unit has its internal layer order reversed.

Reflection: What did you check, what did you change, and what will you try next?