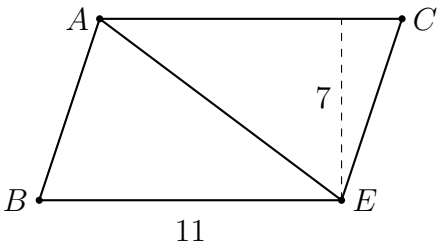
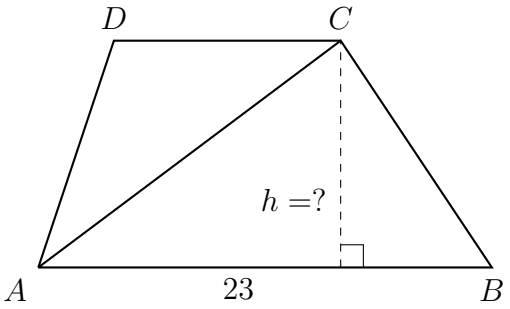
4.5 Do Now: Volume, compound areas

1. The parallelogram $BECA$ is composed of two triangles: $\triangle ABE$ and $\triangle ECA$. The bases of each triangle are congruent, $BE = AC = 11$, as well as their heights, $h = 7$.

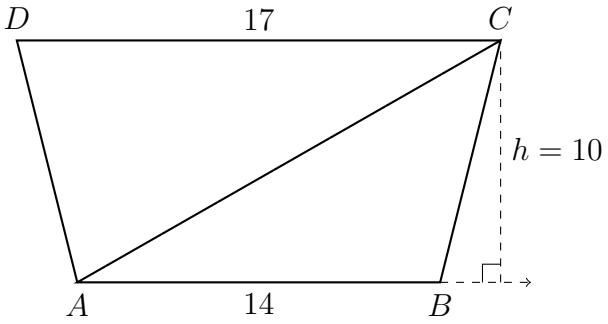
   Find the area of $\triangle ABE$.



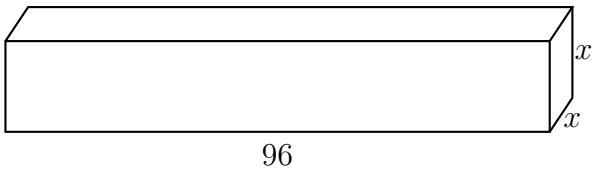
2. The quadrilateral $ABCD$ has a base with length $AB = 23$. The area of $\triangle ABC$ is 155.25. Find the height of $ABCD$, the length h of the perpendicular dropped from vertex C to base $\overline{AB}$.



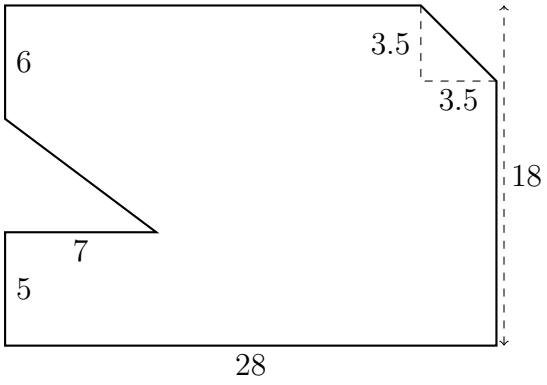
3. The trapezoid $ABCD$ has two parallel sides, $\overline{AB} \parallel \overline{CD}$ with lengths $AB = 14$ and $CD = 17$. The trapezoid's height is $h = 10$. Find the areas of $\triangle ABC$ and $\triangle CDA$. Add their areas to find the area of the whole trapezoid.



4. A wooden post laying on the ground is 96 inches long. The post's cross section is square. If its volume is 1152 cubic inches, what is the dimension of each side of its square end, x? (not to scale)



5. A rectangle has two triangular cutouts as shown with lengths marked. Find the area of the figure. (the figure is not drawn to scale)



6. Two parallel lines intersect a second set of parallel lines. Given $m\angle 1 = 55°$, find the measures $\angle 2$, $\angle 3$, and $\angle 4$.