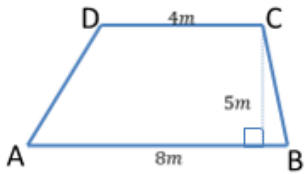
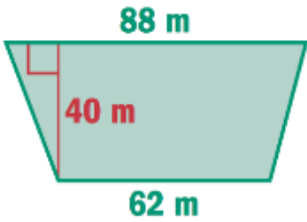
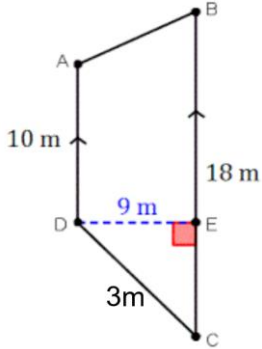
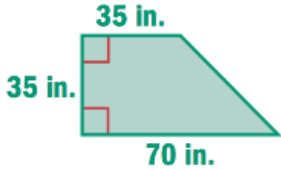


PROBLEM SET – Trapezoids, Mr. Peralta, Class 622 and 623

Important Problems

1. Find the area of each trapezoid

<p>(a)</p> 	<p>(b)</p> 	<p>(c)</p> 
<p>(d)</p> 	<p>(e) A trapezoid has coordinates at (1, 1), (7, 1), (5, 4), and (3, 4). Find the area.</p>	<p>(f) Draw a trapezoid with a base of 9 units and 6 units, and a height of 4 units. Find the area of the trapezoid.</p>

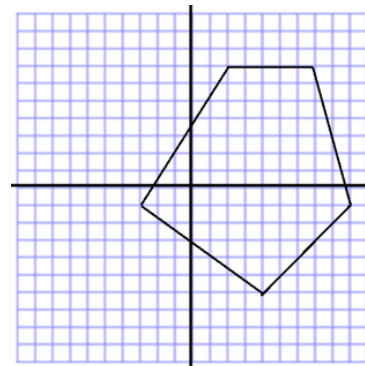
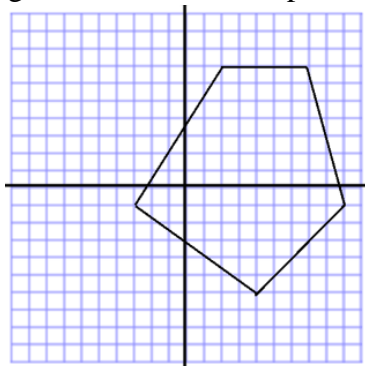
2. A trapezoid has an area of 12 square feet and one of its bases is 2 feet. Its height is 3 feet. Find the other base.

3. A trapezoid has an area of 240 square meters and a base of 16 meters and 8 meters. Find its height.

4. The height of a trapezoid is 6 meters. One of its bases is 8 meters. The area of the trapezoid is 54 square meters. Find the other base.

Review and Extend

1. Find the area of the figure using subtraction. Then find the area of the figure again *not* using subtraction and breaking up the figure into at most *two* pieces.



### **Challenge Questions**

1. The sum of two nonzero real numbers is 4 times their product. What is the sum of the reciprocals of the two numbers?
2. Ms. Carroll promised that anyone who got all the multiple choice questions right on the upcoming exam would receive an A on the exam. Which of these statements necessarily follows logically?
  - (A) If Lewis did not receive an A, then he got all of the multiple choice questions wrong.
  - (B) If Lewis did not receive an A, then he got at least one of the multiple choice questions wrong.
  - (C) If Lewis got at least one of the multiple choice questions wrong, then he did not receive an A.
  - (D) If Lewis received an A, then he got all of the multiple choice questions right.
  - (E) If Lewis received an A, then he got at least one of the multiple choice questions right.
3. The region consisting of all points in three-dimensional space within 3 units of line segment  $\overline{AB}$  has volume  $216\pi$ . What is the length  $AB$ ?