

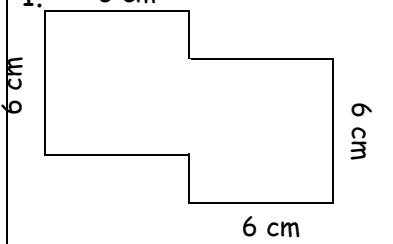
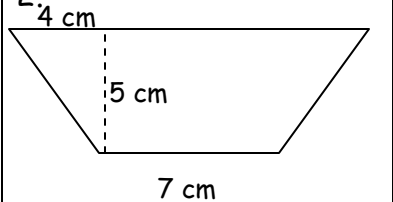
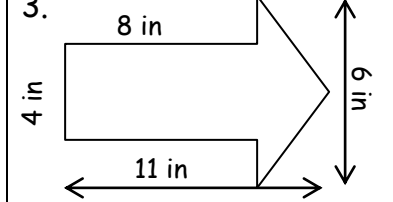
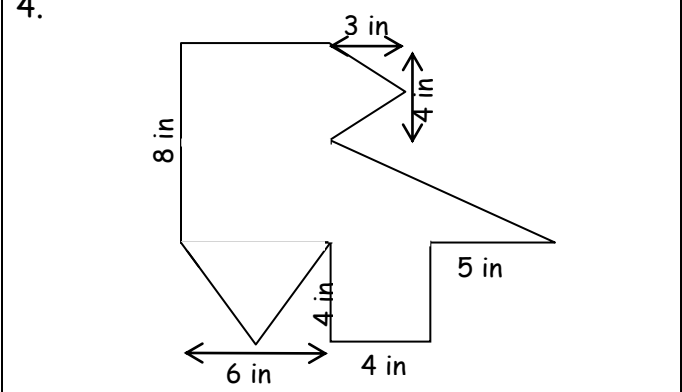
Name _____

Date _____

Decomposing Polygons to Find Area

Directions: Decompose each polygon into rectangles and triangles to find the area.

1. Section the shape into rectangles and/or triangles.
2. Find the area of each rectangle and triangle.
3. Find the total area of the polygon.

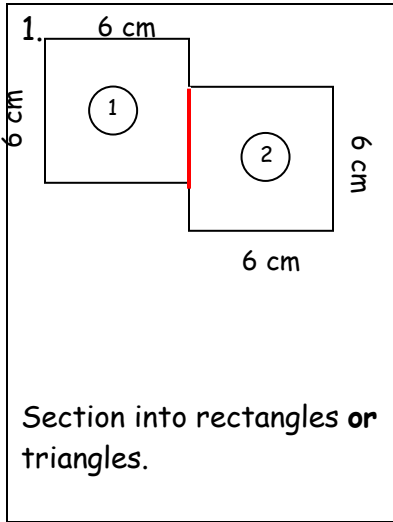
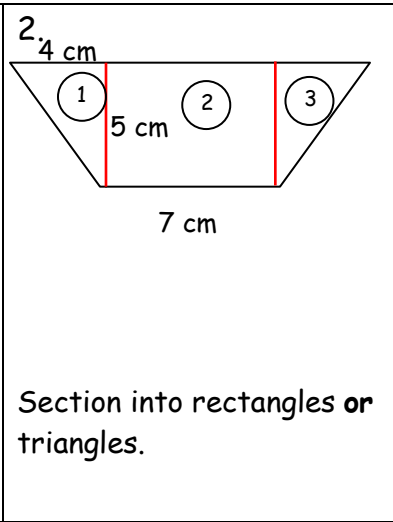
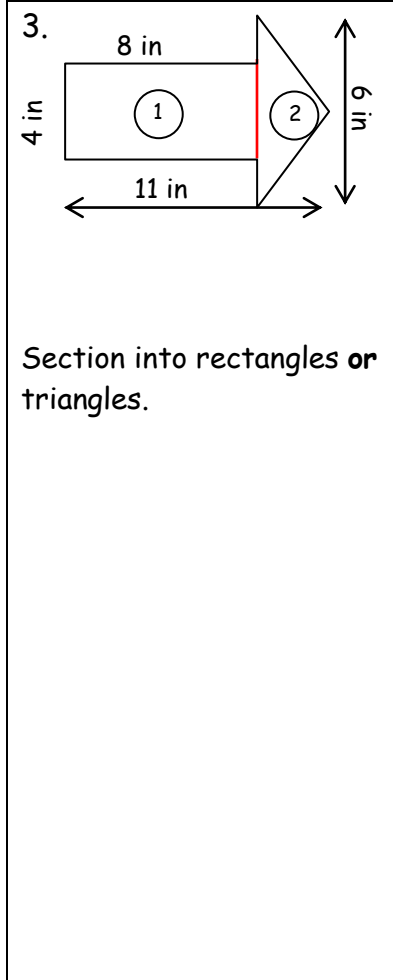
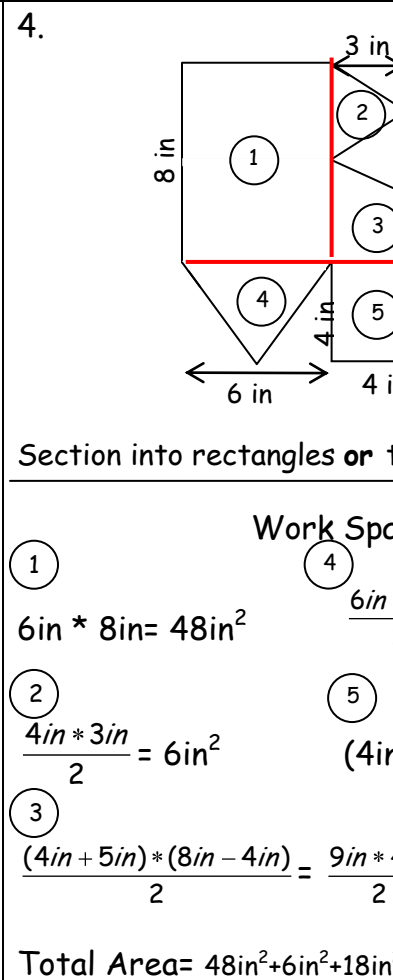
<p>1.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>Total Area=</p>	<p>2.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>Total Area=</p>
<p>3.</p>  <p>Section into rectangles or rectangles</p>	<p>Work Space</p> <p>Total Area=</p>	<p>4.</p>  <p>Section into rectangles or triangles.</p>	
<p>5. Create your own polygon. You will need to be able to divide your polygon into at least 3 triangles and/or rectangles. Solve.</p> <p>Total Area=</p>		<p>Work Space</p> <p>Total Area=</p>	

Key- One possible solution is given. However students may solve each problem in various ways.

Decomposing Polygons to Find Area

Directions: Decompose each polygon into rectangles and triangles to find the area.

1. Section the shape into rectangles and/or triangles.
2. Find the area of each triangle and rectangle.
3. Find the total area of the polygon.

<p>1.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>① $6\text{cm} \times 6\text{cm} = 36\text{cm}^2$</p> <p>② $6\text{cm} \times 6\text{cm} = 36\text{cm}^2$</p> <p>$36\text{cm}^2 + 36\text{cm}^2 = 72\text{cm}^2$</p> <p>Total Area = 72cm^2</p>	<p>2.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>① $\frac{4\text{cm} \times 5\text{cm}}{2} = 10\text{cm}^2$</p> <p>② $7\text{cm} \times 5\text{cm} = 35\text{cm}^2$</p> <p>③ $\frac{4\text{cm} \times 5\text{cm}}{2} = 10\text{cm}^2$</p> <p>Total Area = $10\text{cm}^2 + 35\text{cm}^2 + 10\text{cm}^2 = 55\text{cm}^2$</p>
<p>3.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>① $8\text{in} \times 4\text{in} = 32\text{in}^2$</p> <p>② $\frac{6\text{in} \times (11\text{in} - 8\text{in})}{2} = \frac{6\text{in} \times 3\text{in}}{2} = 9\text{in}^2$</p> <p>$32\text{in}^2 + 9\text{in}^2 = 41\text{in}^2$</p> <p>Total Area = 41in^2</p>	<p>4.</p>  <p>Section into rectangles or triangles.</p>	<p>Work Space</p> <p>① $6\text{in} \times 8\text{in} = 48\text{in}^2$</p> <p>② $\frac{4\text{in} \times 3\text{in}}{2} = 6\text{in}^2$</p> <p>③ $\frac{(4\text{in} + 5\text{in}) \times (8\text{in} - 4\text{in})}{2} = \frac{9\text{in} \times 4\text{in}}{2} = 18\text{in}^2$</p> <p>④ $\frac{6\text{in} \times 4\text{in}}{2} = 12\text{in}^2$</p> <p>⑤ $(4\text{in})^2 = 16\text{in}^2$</p> <p>Total Area = $48\text{in}^2 + 6\text{in}^2 + 18\text{in}^2 + 12\text{in}^2 + 16\text{in}^2 = 100\text{in}^2$</p>

