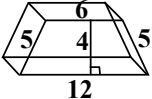
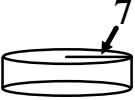
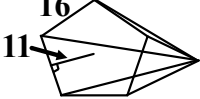
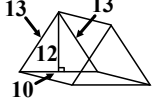

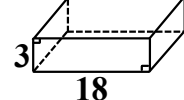
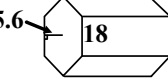
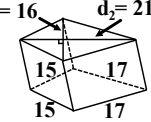
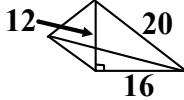
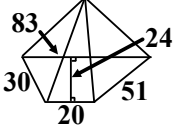
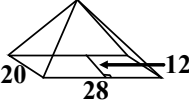
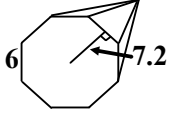
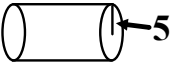
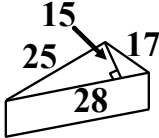
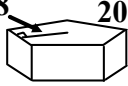
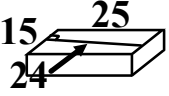
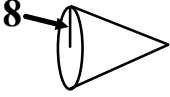
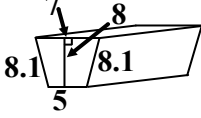


Area and Perimeter of Base Shapes

Now that you know how to determine the shape of the base on a three-dimensional figure, the next step is to be able to focus on the base shape and determine its area and perimeter. To do this, you have to remember that the only information that matters is **on the base shape**. Today, you don't need to worry about distracting information. Soon, you will have to differentiate between **values on the base** and **three-dimensional values**.

Determine the area and perimeter of the base. For circular bases, leave your answers in terms of pi.

<p><b>EXAMPLE</b> 3-D shape: <b>Prism</b></p>  <p>Base shape: <b>Trapezoid</b></p> <p>Area of the <b>Base</b>:  <math display="block">A = \frac{(b_1 + b_2)h}{2}</math> <math display="block">A = \frac{(6 + 12)4}{2} = \frac{(18)4}{2} = (9)(4)</math> <math display="block">A = \boxed{36}</math> </p> <p>Perimeter of the <b>Base</b>:  <i>Add all sides of the base.</i>  <math display="block">P = 6 + 5 + 12 + 5 = 11 + 17</math> <math display="block">P = \boxed{28}</math> </p>	<p><b>EXAMPLE</b> 3-D shape: <b>Cylinder</b></p>  <p>Base shape: <b>Circle</b></p> <p>Area of the <b>Base</b>:  <math display="block">A = \pi r^2</math> <math display="block">A = \pi(7)^2 = \boxed{49\pi}</math> </p> <p>Perimeter of the <b>Base</b>:  <math display="block">P = 2\pi r</math> <math display="block">P = 2\pi(7) = \boxed{14\pi}</math> </p>	<p><b>EXAMPLE</b> 3-D shape: <b>Pyramid</b></p>  <p>Base shape: <b>Polygon</b></p> <p>Area of the <b>Base</b>:  <math display="block">A = \frac{aP}{2} \quad P \text{ is } (16)(5 \text{ sides}) = 80</math> <math display="block">A = \frac{(11)80}{2} = (11)(40) = \boxed{440}</math> </p> <p>Perimeter of the <b>Base</b>:  <i>We already did that to find the area.</i>  <math display="block">P = 16 + 16 + 16 + 16 + 16</math> <i>or...</i> <math display="block">P = (16)(5) = \boxed{80}</math> </p>
<p>1. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>2. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>3. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>
<p>4. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>5. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:  <i>Hint: the two bases are the same.</i></p>	<p>6. 3-D shape:</p>  <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>

<p>7. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>8. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>9. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>
<p>10. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>11. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>12. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>
<p>13. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>14. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>	<p>15. </p> <p>3-D shape:</p> <p>Base shape:</p> <p>Area of the <b>Base</b>:</p> <p>Perimeter of the <b>Base</b>:</p>