

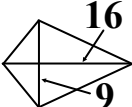

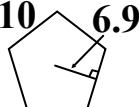
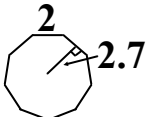
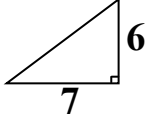

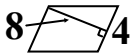
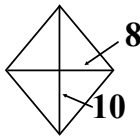
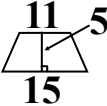

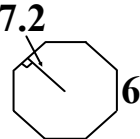

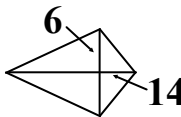
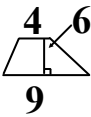
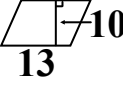
Name: _____

2-D Area

To determine the area of any two-dimensional figure, simply follow the four steps below.

- 1) Identify the shape and its area formula
- 2) Identify the parts of the figure needed in the formula
- 3) Plug in that information
- 4) Solve

Determine the area of each given figure.

<p>EXAMPLE</p>  <p>Kite: $A = \frac{d_1 d_2}{2}$ $d_1 = 9, d_2 = 16$ <i>Plug it in and solve.</i> $A = \frac{(9)(16)}{2} = (9)(8) = \boxed{72}$</p>	<p>EXAMPLE</p> <p>Determine the area of the circle in terms of pi.</p>  <p>Circle: $A = \pi r^2$ $r = 8$ $A = \pi(8)^2 = \boxed{64\pi}$</p>	<p>EXAMPLE</p>  <p>Regular Polygon: $A = \frac{aP}{2}$ $a = 6.9, P = \text{add all sides}$ $P = 10 + 10 + 10 + 10 + 10 = 50$ $A = \frac{(6.9)(50)}{2} = (6.9)(25) = \boxed{172.5}$</p>
<p>1.</p> 	<p>2.</p> 	<p>3. Determine the area of the circle in terms of pi.</p> 
<p>4.</p> 	<p>5.</p> 	<p>6.</p> 
<p>7. Determine the area of the circle in terms of pi.</p> 	<p>8.</p> 	<p>9.</p> 
<p>10.</p> 	<p>11.</p> 	<p>12.</p> 

<p>EXAMPLE Determine the area of a trapezoid with bases 9 and 13, if its height is 8.</p> $\text{Trapezoid: } A = \frac{(b_1 + b_2)h}{2}$ $b_1 = 9, b_2 = 13, \text{ \& } h = 8$ $A = \frac{(9 + 13)(8)}{2} = \frac{(22)(8)}{2}$ $= (11)(8) = \boxed{88}$	<p>EXAMPLE Determine the area of a parallelogram with a height of 15 and a base length of 12.</p> $\text{Parallelogram: } A = bh$ $b = 12, h = 15$ $A = (12)(15) = \boxed{180}$	<p>EXAMPLE Determine the area of a triangle with a base of 10 and a height of 3.</p> $\text{Triangle: } A = \frac{bh}{2}$ $b = 10, h = 3$ $A = \frac{(10)(3)}{2} = (5)(3) = \boxed{15}$
<p>13. Determine the area of a circle with a radius of 6 in terms of pi.</p>	<p>14. Determine the area of a kite with diagonals 14 and 8.</p>	<p>15. Determine the area of a rectangle with a height of 6 and a base length of 17.</p>
<p>16. Determine the area of a triangle with a base of 7 and a height of 8.</p>	<p>17. Determine the area of a trapezoid with bases 7 and 15, if its height is 4.</p>	<p>18. Determine the area of a regular hexagon with an apothem of 8.7 and a side length of 10.</p>

Evaluate.

<p>EXAMPLE Determine the base length of a triangle with an area of 20 and a height of 8.</p> $\text{Triangle: } A = \frac{bh}{2}$ $b = ?, h = 8, A = 20$ $20 = \frac{b(8)}{2}$ $20 = 4b$ $5 = b$ $b = \boxed{5}$	<p>EXAMPLE Determine the apothem of a regular octagon with an area of 310.4 and sides 8 inches long.</p> $\text{Polygon: } A = \frac{aP}{2}$ $a = ?, P = 8(8\text{sides}) = 64,$ $A = 310.4$ $310.4 = \frac{a(64)}{2}$ $310.4 = 32a$ $9.7 = a$ $a = \boxed{9.7}$	<p>EXAMPLE Determine the measure of the remaining base side of a trapezoid with an area of 15, if one of the bases is 6 and the height is 3.</p> $\text{Trapezoid: } A = \frac{(b_1 + b_2)h}{2}$ $b_1 = 6, b_2 = ?, h = 3, A = 15$ $15 = \frac{(6 + b_2)(3)}{2}$ $30 = (6 + b_2)(3)$ $10 = (6 + b_2)$ $4 = b_2$ $b_2 = \boxed{4}$
<p>19. Determine the height of a parallelogram with a base length of 7 and an area of 28.</p>	<p>20. Determine the radius of a circle that has an area of 49π.</p>	<p>21. Determine the remaining diagonal of a rhombus with an area of 12 and a diagonal of 8.</p>