1. Find the equation of the circle with center (4, –4) and radius of 4.

[A] \( (x - 4)^2 + (y + 4)^2 = 16 \) \hspace{1cm} [B] \( (x + 4)^2 - (y - 4)^2 = 16 \)

[C] \( (x + 4)^2 + (y - 4)^2 = 4 \) \hspace{1cm} [D] \( (x - 4)^2 + (y - 4)^2 = 16 \)

2. Find the equation of the circle with center (5, 3) and radius of 6.

3. Write the equation of the circle \( x^2 + y^2 = 4 \) under the translation \( (3, -2) \).

4. The area of a circle is \( 36\pi \) and its center is at (5, –1). What is its equation?

[A] \( (x - 5)^2 + (y + 1)^2 = 36 \) \hspace{1cm} [B] \( x^2 + y^2 = 6 \) \hspace{1cm} [C] \( (x + 5)^2 + (y - 1)^2 = 6 \)

[D] \( (x - 5)^2 + (y + 1)^2 = 6 \) \hspace{1cm} [E] none of the above

5. The table gives the diameters of some of the planets.

<table>
<thead>
<tr>
<th>Planet</th>
<th>Diameter(miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venus</td>
<td>7,519</td>
</tr>
<tr>
<td>Mercury</td>
<td>3,032</td>
</tr>
<tr>
<td>Saturn</td>
<td>74,978</td>
</tr>
</tbody>
</table>

Use a center of (0, 0) for each planet. Write an equation of the cross section through the center of each planet.
[1] A_____

[2] \[(x - 5)^2 + (y - 3)^2 = 36\]

[3] \[(x - 3)^2 + (y + 2)^2 = 4\]


[5] Venus: \(x^2 + y^2 = 14,133,840.25\); Mercury: \(x^2 + y^2 = 2,298,256\); Saturn: \(x^2 + y^2 = 1,405,425,121\)