

Determine if the given points are ON, INSIDE, or OUTSIDE the given circle:

(SHOW ALL YOUR WORK)

Circle: $(x - 5)^2 + (y + 2)^2 = 36$

1. $(10, 0)$

2. $(3, 1)$

3. $(-2, -2)$

4. A circle has a radius of 2 and a center of $(2, -3)$. Will the following points lie on the circle?

a. $(2, -5)$

b. $(3, -1)$

5. Austin loves listening to his favorite country station, 101.5 Kicks fm. On a map, the station's headquarters are located at $(7, 3)$ and emits a signal that reaches a 50 mile radius.

a. Can Austin listen to his favorite station when he's chilling by the pool at a friend's house who lives at $(49, -5)$?

6. The Space Race in the 1960's between The Soviets and The Americans was a race to see who could get a spacecraft to the moon first. The moon has a 2-dimensional region of: $x^2 + y^2 + 882x - 166y + 90,345 = 0$. Which country "won" the space race (landed on the moon)?

Russia shoots a rocket that lands at: $(-100, 80)$

USA shoots a rocket that lands at: $(-400, -200)$

7. Clowns are roaming around different areas of Acworth. One clown is at $x^2 + 6x + y^2 - 31 = 0$ And the other clown is roaming a center of $(-2, -2)$ with a radius of 4 miles. Will anyone be attacked by clowns?

a. Your house is at $(6, 0)$

b. Your friend's house is at $(3, -3)$

c. Coach Phillips house is at $(2.3, 4.1)$