What'd You Say?

Name_____

Shrek the Third

In the movie, *Shrek the Third*, Prince Charming questions Pinocchio about Shrek's location.

Prince Charming: You. You can't lie, so tell me puppet, where is Shrek?
Pinocchio: Uh, hmm, well, uh, I don't know where he's not.
Prince Charming: You're telling me, you don't know where Shrek is?
Pinocchio: It wouldn't be inaccurate to assume that I couldn't exactly not say that it is or isn't almost partially incorrect.
Prince Charming: So, you do know where he is?
Pinocchio: On the contrary. I'm possibly more or less not definitely rejecting the idea that in no way with any amount of uncertainty that I undeniably do or do not know where he shouldn't probably be, if that indeed wasn't where he isn't. Even if he wasn't at where I knew he was that'd mean I really have to know where he wasn't.

Pinocchio knows Shrek's location, but if he tells a lie, his nose will grow. Decide which of the following statements Pinocchio could say without his nose growing. That is, which of the following statements, said by Pinocchio, are true. Be ready to defend your answers.

1. 39 is not prime and I do not know Shrek's location.

2. If all rectangles are squares and all squares have four sides, then I don't know Shrek's location.

3. If I do know Shrek's location then I don't know Shrek's location.

4. It is not the case that if triangles have three sides, then I don't know Shrek's location.

5. I don't know Shrek's location and all squares have four sides.

6. 52 is divisible by 4 or I don't know Shrek's location.

7. A square is a circle if and only if I do not know Shrek's location.

8. If I do not know Shrek's location and $x^3 = x \bullet x \bullet x$, then $x^{\frac{1}{3}} = \dfrac{1}{x \bullet x \bullet x}$.

9. If 2 * 3 = 6 or 2 + 3 = 6 then I don't know Shrek's location.

10. I don't know Shrek's location or the volume of a cylinder is $V = \pi r^2 h$.