Who Am I?

Guess my number from the following clues.

Note to teachers:
I would display one clue at a time and allow students to make a guess after each problem.
Or you could have the students write down all the possibilities after each clue.

1. I am a whole number with $\left(\displaystyle\int_0^{\frac{\pi}{4}} 6\sin(2\theta)\,d\theta \right)$ digits.

2. I am greater than $\left(\displaystyle\int_4^9 \frac{120+60x}{2\sqrt{x}}\,dx \right)$.

3. My tens digit is $\left(\displaystyle\int_0^3 \frac{dx}{\sqrt{1+x}} \right)$ less than my hundreds digit.

4. My ones digit is $\left(\displaystyle\int_0^3 \frac{dt}{\sqrt{4-t}} \right)$ less than my tens digit.

5. The sum of two of my digits is $\left(\displaystyle\int_{\sqrt{2}}^2 \frac{30u\,du}{\left(u^2-1\right)^2} \right)$.

6. The product of two of my digits is $\left(\displaystyle\int_0^{\sqrt{3}} \frac{32x\,dx}{\sqrt{4-x^2}} \right)$.

7. The difference between my hundreds digit and my ones digit is $\left(\displaystyle\int_0^{\pi} 6\cos^2\theta \sin\theta\,d\theta \right)$.

8. My ones digits is $\left| \int_0^{2\pi} \sin\left(\frac{1}{2}t\right)dt \right|$.

9. My tens digit is $\left| \int_{\frac{\pi}{12}}^{\frac{\pi}{4}} \frac{12\cos(2x)dx}{\sin^2 2x} \right|$.

10. Each of my digits is even.

Who am I?

Answer: I am 864.

The answer can be determined by Clue #6.