

1. What is the domain of the function  $f(x) = \frac{1}{\sqrt{9-x^2}}$ ?

\_\_\_\_\_

2. What is the value of  $(2 - 3(2 - 3)^{-1})^{-1}$ ?

\_\_\_\_\_

3. Solve the inequality  $x^3 - 13x^2 + 36x \geq 0$ .

\_\_\_\_\_

4. Solve:  $10 = e^{5x}$

\_\_\_\_\_

5. Given that  $8^x = 32$ , what is  $x$ ?

\_\_\_\_\_

6. The square of a positive number is seven bigger than the number's reciprocal. Write an equation that the number satisfies.

\_\_\_\_\_

7. Solve:  $|2x - 3| < 5$

\_\_\_\_\_

Suppose that \$400 is deposited into an account with an annual percentage rate of 6%, compounded quarterly.

8. To the nearest quarter, how long does it take the balance to double?

\_\_\_\_\_

9. To the nearest quarter, how long does it take the balance to triple?

\_\_\_\_\_

10. What is the balance after 12 years? Round your answer to the nearest penny.

\_\_\_\_\_