DIRECTIONS: Solve each equation.

1. \( a^{3/4} = 8 \)
   \( a = 16 \)

2. \( (3x + 1)^{3/4} = 8 \)
   \( x = 5 \)

3. \( y^{-1/2} = 6 \)
   \( y = \frac{1}{36} \)

4. \( (3y)^{-1/2} = 6 \)
   \( y = \frac{1}{108} \)

5. \( 2y^{-1/2} = 10 \)
   \( y = \frac{1}{25} \)

6. \( (2y)^{-1/2} = 10 \)
   \( y = \frac{1}{200} \)

7. \( (9t)^{-2/3} = 4 \)
   \( t = \frac{1}{72} \)

8. \( 9t^{-2/3} = 4 \)
   \( t = \frac{27}{8} \)

9. \( (8 - y)^{1/3} = 4 \)
   \( y = -56 \)

10. \( (3n - 1)^{-2/3} = \frac{1}{4} \)
    \( n = 3 \)

11. \( (x^2 + 4)^{2/3} = 25 \)
    \( x = \pm 11 \)

12. \( (x^2 + 9)^{1/2} = 5 \)
    \( x = \pm 4 \)