

1. Evaluate $16^{3/4}$.

2. For $f(x)=2x+3$, find $f^{-1}(11)$.

3. For $F(x)=(x^2-9)/(x-3)$, find $F(5)$.

4. Find B, the squared-factor coefficient in the worked decomposition.

5. Evaluate $16^{-3/4}$.

6. Each root in the new variable must be checked.

☐ True ☐ False

7. Every intersection point is included if either boundary is solid.

☐ True ☐ False

8. For negative x , $4/x$ is negative but $4/x^2$ is positive.

☐ True ☐ False

9. The inner output must also lie in the outer function's domain.

☐ True ☐ False

10. A repeated root of even multiplicity touches the axis without changing sign, as $y=x^2$ does at 0.

☐ True ☐ False

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1. **8.0**

$16=2^4$, so $16^{3/4}=2^3=8$.

2. **4.0**

Solve $2x+3=11$, giving $x=4$.

3. **8.0**

5 is allowed; after factor cancellation, $F(5)=5+3=8$.

4. **1.0**

At $x=-1$ in the identity, $1=B$.

5. **0.125**

The fourth root of 16 is 2; its cube is 8, then take the reciprocal.

6. **True**

True. Each root in the new variable must be checked: $u=x^2$ with $u<0$ gives no real x , and $u>0$ gives two.

7. **False**

A point is included only if it satisfies every inequality, so a dashed boundary excludes it.

8. **True**

True. For negative x , $4/x$ is negative but $4/x^2$ is positive.

9. **True**

True. The inner output must also lie in the outer function's domain.

10. **True**

True. A repeated root of even multiplicity touches the axis without changing sign, as $y=x^2$ does at 0.