

Keeper 4.9 Virtual Problems

Find the Derivative

1. $y = \arctan(x^2 + 1)$

2. $y = \arcsin(5x)$

3. $y = \arctan(\sqrt{x})$

4. $y = \sin^{-1}(\sqrt{x})$

5. $y = \tan^{-1}(x^2 + 2x)$

6. $y = \tan^{-1}(e^x)$

7. $y = x \tan^{-1}(x)$

8. $y = x^2 \sin^{-1}(x)$

9. $y = e^x \sin^{-1}(x)$

10. $y = \ln(x) \arctan(x)$

x	$f(x)$	$f'(x)$
2	3	4
3	$\frac{35}{4}$	$\frac{31}{4}$
4	19	13

Given the table above, evaluate the following:

11. Find $f^{-1}(x)$ when $x = 19$

12. Find $f^{-1}\left(\frac{35}{4}\right)$

Find $(f^{-1})'(19)$

Find $(f^{-1})'\left(\frac{35}{4}\right)$

Evaluate:

13. If $f(x) = 2x + 7$, find $(f^{-1})'(3)$

14. If $f(x) = x^2 - 1$ has restricted domain $[0, \infty)$, find $(f^{-1})'(15)$