Derivative Practice III

Find the derivative of each of the following functions.

1. $y = x^2 2^x + \pi^2$

2. $y = \arcsin\left(x^2\right)$

3. $y = \sqrt{10^{5-x}}$

4. $y = [\arccos(x)]^3$

5. $y = \arctan\left(e^x\right)$

6. $f(x) = \dfrac{4}{x} \cdot 3^{x^2 - x}$

7. $g(x) = 5^x + 3x^7$

8. $f(x) = \arctan(-5x)$

9. $2y = x^2 + \sin y$

10. $y = \arccos(x^3)$

11. $y = [\arcsin(x)]^4$

12. $f(x) = \arctan(-2x)$

13. $3y = x^3 + \cos y$

14. $y = e^{10x} \csc^{-1}(20x)$

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

16. $x \cos y + y \cos x = 1$

17. $\dfrac{y}{x-y} = x^2 + 1$

18. $x^2 y^3 + 3y^2 = x - 4y$

19. $y\sqrt{x-1} + x\sqrt{y-1} = xy$

20. $2xy = (x^2 + y^2)^{\frac{3}{2}}$