Chapter 2 Practice set #2

1. $\frac{d}{dx}x^n =$

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2. $\frac{d}{dx}\sin(x) =$

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3. $\frac{d}{dx}\cos(x) =$

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4. $\frac{d}{dx}\tan(x) =$

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5. $\frac{d}{dx}\sec(x) =$

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6. $\frac{d}{dx}(x^3 + 3x^2 - 2x + 4)$

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7. $\frac{d}{dx}(x\sin(x)) =$

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8. $\frac{d}{dx}(\sin(x)\cos(x)) =$

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9. $\frac{d}{dx}((x-1)\tan(x)) =$

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10. $\frac{d}{dx}((2x+1)\sec(x)) =$

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11. $\frac{d}{dx}\left(\frac{x^3 + 3x^2 - 2x + 4}{x^2 + 3}\right)$

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12. $\frac{d}{dx}\left(\frac{\sin(x)}{x^2 + 1}\right) =$

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13. $\frac{d}{dx}\left(\frac{\cos(x)}{x}\right) =$

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14. $\frac{d}{dx}\left(\frac{(x-1)}{\tan(x)}\right) =$

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15. $\frac{d}{dx}\left(\frac{(2x+1)}{\sec(x)}\right) =$

16. Find dy/dx for

$x^2 + y^3 + y = 2$

at the point (2,-1).

17. Find dy/dx for

$xy^2 + x + y = 3$

at the point (2,-1).

18. A point travels the curve $x^2 + y^3 + y = 2$
in such a way that dx/dt is 2 units per second. What is dy/dt at the point (2,-1)?