

MA216 Quiz#2

31. $\frac{d}{dx}(e^5) =$

- a. e^5
- b. $5e^4$
- ☒ c. 0
- d. No correct answer

32. $\frac{d}{dx}(3x^5) =$

- a. $3(x^5)$
- ☒ b. $3(5x^4)$
- c. $5x^4$
- d. 0

33. If $y = \frac{x^3 + 2x^2 + 1}{x}$, find $\frac{dy}{dx}$.

- a. $2(x+1) + \frac{1}{x^2}$
- b. $2(x-1) - \frac{1}{x^2}$
- ☒ c. $2(x+1) - \frac{1}{x^2}$
- d. None of these is correct

34. $y = (2x+1)^3$, find y' .

- a. $3(2x+1)^2$
- ☒ b. $6(2x+1)^2$
- c. $3(2x+1)^4$
- d. $6(2x+1)^4$

35. Find $f'(0)$ if $f(x) = (x+2)(x+3)(x+4)$.

- a. 0
- b. 24
- ☒ c. 26
- d. No correct answer

36. If $F(x) = \frac{4x^2 + 3}{2x - 1}$, find $F'(x)$.

a. $\frac{(2x + 1)(2x - 3)}{(2x - 1)^2}$

b. $-\frac{2(2x + 1)(2x - 3)}{(2x - 1)^2}$

c. $\frac{2(2x + 1)(2x + 3)}{(2x - 1)^2}$

☒ d. $\frac{2(2x + 1)(2x - 3)}{(2x - 1)^2}$

37. If $y = 2u^2 - 3u - 2$ and $u = x^2 + 4$, find dy/dx .

a. $-8x^3 + 26x$

b. $8x^3 - 26x$

c. $-8x^3 - 26x$

☒ d. $8x^3 + 26x$

38. If $y = (x^2 - 1)^{10}$, find y' .

a. $10(x^2 - 1)^9$

b. $10(2x - 1)^9$

☒ c. $20x(x^2 - 1)^9$

d. No correct answer

39. Which one is incorrect?

☒ a. $\frac{d}{dx}(c) = c$

b. $\frac{d}{dx}(x)^n = nx^{n-1}$

c. $\frac{d}{dx}[cf(x)] = cf'(x)$

d. $\frac{d}{dx}[f(x) + g(x)] = f'(x) + g'(x)$

40. Which one is incorrect?

a. $\frac{d}{dx}[f(x)g(x)] = f(x)g'(x) + g(x)f'(x)$

b. $\frac{d}{dx}\left[\frac{f(x)}{g(x)}\right] = \frac{g(x)f'(x) - f(x)g'(x)}{[g(x)]^2}$

c. $\frac{dy}{dx} = \frac{dy}{du} \cdot \frac{du}{dx}$

☒ d. All of these are correct