1-21-20 5th Trig

Review Quiz

missed # 3 and #9

#3 was 4-4B

Cecil Hickman

RQ #1

| 4-4B | 4-1B |
|---|---|
| ① 20 | ① C |
| ② 18 | ② D |
| ③ A | ③ A |
| ④ C | ④ B |
| ⑤ D | ⑤ B |

Scratch work

4-4B

① $\frac{28!}{24!\,2!} = \ldots$

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What is pattern?

(A) $f(x) = 3x^4 + 4x^2 + 6x^1$

$f'(x) = 12x^3 + 8x + 6$

(B) $f(x) = -8x^3 + 5x^2$

$f'(x) = -24x^2 + 10x$

① $f(x) = 10x^7 - 6x^3 + 2x^2$

$f'(x) = 70x^6 - 18x^2 + 4x$

② $f(x) = -8x^2 + 6x^1 + 5x^0$

$f'(x) = -16x + 6$ ~~$+0$~~

③ $f(x) = 3x^{-4} + 6x^{-2}$

$f'(x) = -12x^{-5} - 12x^{-3}$

OR

$f'(x) = \frac{-12}{x^5} - \frac{12}{x^3}$

④ $f(x) = \frac{8}{x^3} + \frac{5}{x^2}$

Rewrite

$f(x) = 8x^{-3} + 5x^{-2}$

$f'(x) = -24x^{-4} - 10x^{-3}$

OR $\frac{-24}{x^4} - \frac{10}{x^3}$

⑤ $f(x) = \frac{6}{x^2} - \frac{5}{x}$

Rewrite

$f(x) = 6x^{-2} - 5x^{-1}$

$f'(x) = -12x^{-3} + 5x^{-2}$

OR

$\frac{-12}{x^3} + \frac{5}{x^2}$

⑥ $f(x) = \frac{1}{2} \cdot x^4$

$f'(x) = 4 \cdot \frac{1}{2} x^3$

$= 2x^3$

⑦ $f(x) = \frac{x^3}{3}$

same as $\frac{1}{3} \cdot x^3$

$f'(x) = 3 \cdot \frac{1}{3} x^2$

$f'(x) = x^2$

OR

$f'(x) = \frac{3x^2}{3}$

$f'(x) = x^2$

1-21-20 3rd Trig

Review Quiz

Pretend we missed #4 and #6

Cecil Hickam

RQ 1

| 5-1 | |
|---|---|
| ① | A |
| ② | C |
| ③ | C |
| ④ | D |
| ⑤ | B |

| 4-5 | |
|---|---|
| ① | $2x-1$ |
| ② | $3x$ |
| ③ | C |
| ④ | B |
| ⑤ | C |

Scratch

5-1

①

②

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Figure out what the pattern is

Ⓐ $f(x) = 6x^4 + 10x^3 + 6x^1$

$f'(x) = 24x^3 + 30x^2 + 6x^0$

Ⓑ $f(x) = 8x^2 + 6x^1 + 5x^0$

$f'(x) = 16x + 6x^0 + 0$

① $f(x) = 8x^3 - 5x^2 + 6x + 1$

$f'(x) = 24x^2 - 10x + 6$

② $f(x) = 5x^{-3} + 6x^{-2}$

$f'(x) = -15x^{-4} - 12x^{-3}$

or

$\frac{-15}{x^4} - \frac{12}{x^3}$

③ $f(x) = \frac{6}{x^4} + \frac{2}{x^3}$

Rewrite first

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

$f'(x) = -24x^{-5} - 6x^{-4}$

OR

$\frac{-24}{x^5} - \frac{6}{x^4}$

④ $f(x) = \frac{2}{x^4} + \frac{6}{x^{10}}$

$= 2x^{-4} + 6x^{-10}$

$f'(x) = -8x^{-5} - 60x^{-11}$

OR

$\frac{-8}{x^5} - \frac{60}{x^{11}}$

⑤ $f(x) = \frac{1}{2}x^8$

$f'(x) = 8 \cdot \frac{1}{2} x^7$

$= 4x^7$

⑥ $f(x) = \frac{x^3}{3}$

Option 1

$f(x) = \frac{1}{3}x^3$

$f'(x) = 3 \cdot \frac{1}{3} x^2$

$= x^2$

Option 2

$f'(x) = \frac{3x^2}{3}$

$f'(x) = x^2$

1-21-20 4th Trig

Review Quiz

Let's say I missed #3 and #7.

Cecil Hickam

RQ 1

| 4-4B | 3-4 |
|---|---|
| ① x+3 | ① 3x-1 |
| ② A | ② 2x+2 |
| ③ B | ③ 8x |
| ④ C | ④ A |
| ⑤ D | ⑤ B |

Scratch Work

4-4B

① ~~~~ x+3

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What is going on?

Ⓐ $f(x) = 5x^4 + 6x^2 + 5x^1$ $x^0 = 1$

$f'(x) = 20x^3 + 12x + 5$ ~~x~~

Ⓑ $f(x) = 8x^5 - 6x^3 + 5x^1 + 2x^0$

$f'(x) = 40x^4 - 18x^2 + 5$ ~~x~~ + ~~0~~

① $f(x) = 20x^4 - 6x^3 + 2x + 1$

$f'(x) = 80x^3 - 18x^2 + 2$

② $f(x) = 8x^{-4} + 6x^{-3} + 2x^{-2}$

$f'(x) = -32x^{-5} - 18x^{-4} - 4x^{-3}$

OR

$\frac{-32}{x^5} - \frac{18}{x^4} - \frac{4}{x^3}$

③ $f(x) = 5x^{-10} - 6x^{-2}$

$f'(x) = -50x^{-11} + 12x^{-3}$

OR

$\frac{-50}{x^{11}} + \frac{12}{x^{-3}}$

④ $f(x) = \frac{2}{x^2} + \frac{6}{x^3}$

Rewrite first

$f(x) = 2 \cdot x^{-2} + 6 \cdot x^{-3}$

$f'(x) = -4x^{-3} - 18x^{-4}$

OR

$\frac{-4}{x^3} - \frac{18}{x^4}$

⑤ $f(x) = \frac{5}{x^{10}} - \frac{8}{x^2}$

Rewrite

$f(x) = 5x^{-10} - 8x^{-2}$

$f'(x) = -50x^{-11} + 16x^{-3}$

OR

$-\frac{50}{x^{11}} + \frac{16}{x^3}$

⑥ $f(x) = \frac{x^4}{2}$

Option 1

$f(x) = \frac{1}{2} \cdot x^4$

$f'(x) = 2x^3$

Option 2

$f'(x) = \frac{4x^3}{2}$

$= 2x^3$

⑦ $f(x) = \frac{x^5}{4}$

Option 1

$f(x) = \frac{1}{4} \cdot x^5$

$f'(x) = 5 \cdot \frac{1}{4} x^4$

$= \frac{5}{4} x^4$

Option 2

$f'(x) = \frac{5x^4}{4}$

$= \frac{5}{4} \cdot x^4$