Question

a.) $5n^3 + 2n^2 + 3n = O(n^3)$ $5n^3 + 2n^2 + 3n = Cn^3$ for $n > n_0$ $5n^3 + 2n^2 + 3n = 5n^3 + 2n^3 + 3n^3$

5n3+2n2+3n = 10n3

C=10

C=10

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ums tupe: Littemt forded

b.) $\sqrt{7n^2 + 2n - 8} = \Theta(n)$

 $c_1 n \leq \sqrt{7n^2 + 2n - 8} \leq c_2 n$ for $n \geq n_0$

was from the total to see found the end song

Cin2 = 7n2+2n-8 = Cin2

4n2 = 7n2+2n-F = 7n2+2n2

14n2 = 57n2+2n-8 = 59n2

2n = \7n2+2n-8 = Bn

2(2) = \(\frac{7(2)^2 + 2(2) - 6}{2} \) \(\frac{3}{100} \)

4 = 524 5 6V

 $c_1 = 2$ $c_2 = \sqrt{3}$ $n_0 = 2$

() din) = C, fen) e(n) & Czg(n) den) ecn) = c, fen) cen) cifiniein) = ciczfiniein) C1C2=C3 den)een) < cz fenleen) den)een) = & (fen)een) Question 2: Example 1: O(n2) Example 2: 8(n) Example 3: O(login) Example 4:0(n) caledian of elements who

- LEWSTERSHER TO 1250000 motions wills exactly