Учебная практика 1 курс.

Найти функцию $g(x) = Cx^\alpha$, эквивалентную функции $f(x)$ при $x \to \alpha$

1) $f(x) = \dfrac{x^4}{2x^2 + x + 2}$ $\quad \alpha = 0; \quad \alpha = +\infty$

2) $f(x) = \sqrt[8]{x^6 + 3\sqrt[5]{x}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

3) $f(x) = \dfrac{3x^2}{x + 2}$ $\quad \alpha = 0; \quad \alpha = +\infty$

4) $f(x) = \arcsin \dfrac{x}{x^2 + 2} \cdot \cos \sqrt{3x^2 + 5}$ $\quad \alpha \quad \alpha = +\infty$

5) $f(x) = \dfrac{\sin^3 2x - 5x}{\sqrt{9x^3 + 1} - \sqrt{x}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

6) $f(x) = \dfrac{(1 + \sin 5x)\sqrt[4]{3x}}{12 + \sqrt{7x + 1}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

7) $f(x) = \sqrt[4]{x + \sqrt{x}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

8) $f(x) = \dfrac{\sqrt{x + 1} - 1}{\sqrt{x + 1}} + x$ $\quad \alpha = 0; \quad \alpha = +\infty$

9) $f(x) = 2x - 3x^3 + x^5$ $\quad \alpha = 0; \quad \alpha = +\infty$

10) $f(x) = \dfrac{3x^3}{1 - 2x + x^2}$ $\quad \alpha = 0; \quad \alpha = +\infty$

11) $f(x) = \sqrt[5]{x^3 - \sqrt{x}} + \sqrt{x}$ $\quad \alpha = +0; \quad \alpha = +\infty$

12) $f(x) = 3x + x^2 \ln x + x^3$ $\quad \alpha = +0; \quad \alpha = +\infty$

13) $f(x) = \sqrt{x + \sqrt{x + \sqrt{x}}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

14) $f(x) = \dfrac{2x^5}{x^3 - 3x + 1}$ $\quad \alpha = 0; \quad \alpha = +\infty$

15) $f(x) = x \operatorname{arctg}^3 \ 4x$ $\quad \alpha = 0; \quad \alpha = +\infty$

16) $f(x) = \sqrt{3x + \sqrt{x + \sqrt{x}}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

17) $f(x) = \dfrac{(1+\sin 2x)^3\sqrt{5x}}{1-\sqrt{3x+1}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

18) $f(x) = \dfrac{\sin 2x + 3x}{\sqrt{x^2+1}-\sqrt{2x}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

19) $f(x) = \operatorname{arctg}\dfrac{2x}{x^3-1} \cdot \sin\sqrt{x^2+1}$ $\quad \alpha = 0; \quad \alpha = +\infty$

20) $f(x) = \sqrt[3]{x^2-x} + \sqrt{x}$ $\quad \alpha = 0; \quad \alpha = +\infty$

21) $f(x) = x\operatorname{arctg}^3\ 4x$ $\quad \alpha = 0; \quad \alpha = +\infty$

22) $f(x) = \dfrac{\sqrt{x^2+1}-3\cos x}{\sqrt{x+1}+\sqrt{x}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

23) $f(x) = \dfrac{(1+\cos 2x)^4\sqrt{2x}}{1+\sqrt{5x-1}}$ $\quad \alpha = +0; \quad \alpha = +\infty$

24) $f(x) = \dfrac{2x^4}{x^2-3x+1}$ $\quad \alpha = 0; \quad \alpha = +\infty$

25) $f(x) = \sqrt[3]{8x^6+3\sqrt[4]{x}}$ $\quad \alpha = 0; \quad \alpha = +\infty$