**ĆWICZENIA 10– ZADANIA** (Całki elementarne)

**Zadanie 1** Oblicz następujące całki

1. Całki elementarne:

1. $\int \sqrt{x}\, dx$
2. $\int \sqrt[m]{x^n}\, dx$
3. $\int \frac{1}{x^2}\, dx$
4. $\int \frac{1}{2\sqrt{x}}\, dx$
5. $\int (1-2u)\, du$
6. $\int \operatorname{tg}^2 x\, dx$
7. $\int \left(\sqrt{x}+1\right)\left(x-\sqrt{x}+1\right) dx$
8. $\int (x-3)(x+6)(x-2)dx$
9. $\int \left(\frac{1-z}{z}\right)^2 dz$
10. $\int \frac{\sin 2x}{\cos x}\, dx$
11. $\int \frac{\sqrt[3]{x^2}-\sqrt[4]{x}}{\sqrt{x}}\, dx$
12. $\int \left(\frac{5}{x^3}-2x^2\right)dx$
13. $\int \frac{(1-x)^2}{x\sqrt{x}}\, dx$
14. $\int \left(\frac{2}{x}-3x^2\sqrt{x}+\frac{5x}{\sqrt[3]{x}}\right) dx$
15. $\int \left(\frac{-9}{\sqrt{1-x^2}}+\frac{1}{\sin^2 x}+4\cos x+\frac{5}{1+x^2}\right) dx$
16. $\int \frac{x^2+7x+12}{x+4}\, dx$
17. $\int \left(\frac{1}{\sqrt{1-x^2}}+\frac{2}{\cos^2 x}-5\sin x-\frac{1}{1+x^2}\right) dx$
18. $\int \frac{x^2+2\sqrt{2}x+2}{x-\sqrt{2}}\, dx$
19. $\int \frac{4-x}{2+\sqrt{x}}\, dx$
20. $\int \frac{\cos 2x}{\cos x-\sin x}\, dx$
21. $\int \left(3\sqrt{x}-\sqrt[4]{x^3}+5x^3\right) dx$
22. $\int \frac{1+3x^2}{x^2\left(1+x^2\right)}\, dx$
23. $\int \frac{\left(1+2x^2\right)}{x^2\left(1+x^2\right)}\, dx$
24. $\int 10^x\, dx$
25. $\int a^x e^x\, dx$
26. $\int 3{,}4x^{-0{,}17}\, dx$
27. $\int \frac{-x^4+3x^2+4}{x^2-4}\, dx$
28. $\int \left(5\sin x+7\cos x\right) dx$