Вариант 1

1. $\int \left(1-\frac{1}{x^2}\right)\sqrt{x\sqrt{x}}dx$

2. $\int \frac{dx}{2^x+4\cdot 2^{-x}}$

3. $\int \frac{(5x+1)dx}{x^2-8x+25}$

4. $\int x\cdot arctg(2x)\,dx$

5. $\int \frac{x^3+2}{x^3-8x^2+7x}dx$

6. $\int \frac{x^3}{(x-2)^2(x^2+2x+10)}dx$

7. $\int tg^6 2xdx$

8. $\int \frac{sin^2 x}{sinx+2cosx}dx$

9. $\int \frac{dx}{\sqrt[3]{x}+8}$

10. $\int \frac{dx}{(x^2+3)\sqrt{4-x^2}}$

Вариант 2.

1. $\int \frac{2^{x+1} - 5^{x+1}}{10^x} dx$

2. $\int \frac{dx}{xlnx\sqrt{lnlnx}}$

3. $\int \frac{(3x - 1)dx}{\sqrt{9 + 8x - x^2}}$

4. $\int arccos(5x)\, dx$

5. $\int \frac{x^4}{x^3 + 8x^2 + 7x} dx$

6. $\int \frac{x^3 + 1}{(x^5 + 2x^3 + 10x^2)} dx$

7. $\int \frac{dx}{sin^3 x cos^5 x}$

8. $\int \frac{dx}{sin^4 x + cos^4 x}$

9. $\int \frac{dx}{(1 + \sqrt[4]{x})\sqrt{x}}$

10. $\int \frac{dx}{(x^2 + 1)(x + \sqrt{x^2 + 1})}$

Вариант 3.

1. $\int \frac{\sqrt{x^2+1}+\sqrt{x^2-1}}{\sqrt{x^4-1}}dx$

2. $\int tg\frac{1}{x}\cdot\frac{dx}{x^2}$

3. $\int \frac{(7x-2)dx}{\sqrt{11-10x-x^2}}$

4. $\int ln(x^2+3)\,dx$

5. $\int \frac{x^3-2}{x^3+8x^2+7x}dx$

6. $\int \frac{x^3+1}{(x-3)^2(x^4+2x^2)}dx$

7. $\int \frac{dx}{sin^4 x cos^2 x}$

8. $\int \frac{cos^2 x dx}{(sin^2 x-4cos^2 x)^2}$

9. $\int \frac{1-\sqrt{x+1}}{1+\sqrt[3]{x+1}}dx$

10. $\int \frac{\sqrt{x^2-1}}{x}dx$

Вариант 4.

1. $\int \frac{\sqrt{1+x^2}+\sqrt{1-x^2}}{\sqrt{1-x^4}}dx$

2. $\int \frac{dx}{sin^2x\sqrt[3]{ctgx}}$

3. $\int \frac{(7x+3)dx}{x^2-10x+29}$

4. $\int \frac{\sin x}{e^x}dx$

5. $\int \frac{x^4}{x^3-8x^2+7x}dx$

6. $\int \frac{x}{(x+2)^2(x^2-2x+10)}dx$

7. $\int \frac{dx}{cos^4 2x}$

8. $\int \frac{dx}{(3sin2x+2cos2x)^2}$

9. $\int \frac{xdx}{\sqrt[3]{2x-3}}$

10. $\int \frac{x^3}{\sqrt{9-x^2}}dx$

Вариант 5.

1. $\int \frac{e^{3x}-1}{e^{x}-1}dx$

2. $\int \frac{ctg\sqrt{x}}{\sqrt{x}}dx$

3. $\int \frac{(9x-2)dx}{\sqrt{x^2+10x+9}}$

4. $\int \frac{\ln x}{\sqrt{x}}dx$

5. $\int \frac{x^4}{x^4+5x^2+4}dx$

6. $\int \frac{x+1}{(x^5-2x^3+50x^2)}dx$

7. $\int cos^2 2x \cdot cos^2 5x dx$

8. $\int \frac{sinx \cdot cosx dx}{sinx+cosx}$

9. $\int \frac{dx}{(x+1)\sqrt[4]{x^3}}$

10. $\int \frac{dx}{\sqrt{9x-x^2}}$

Вариант 6.

1. $\int \frac{x-4}{2x+4\sqrt{x}} dx$

2. $\int \frac{2 + 3\, ctg^2 x - \cos x}{sin^2 x} dx$

3. $\int \frac{(3x+1)dx}{\sqrt{x^2+4x+3}}$

4. $\int \frac{ln\, x}{x^2} dx$

5. $\int \frac{x^4+1}{x^4+3x^3-4x} dx$

6. $\int \frac{x^2+8}{(x^2+2x+2)(x-3)} dx$

7. $\int sin^2 3x \cdot sin^2 4x dx$

8. $\int \frac{dx}{sin^6 x}$

9. $\int \frac{3-\sqrt{x+2}}{x+2\sqrt{x+2}} dx$

10. $\int x^2\sqrt{4-x^2} dx$

Вариант 7.

1. $\int (\sqrt{x^7} - \sqrt{7^x})dx$

2. $\int \frac{5 - x^2 + e^{\sqrt{x}}}{\sqrt{x}} dx$

3. $\int \frac{(2x+1)dx}{x^2 - 4x + 13}$

4. $\int x \cdot ctg^2\, x\, dx$

5. $\int \frac{x^3 - 1}{x^3 + 2x^2 - 15x} dx$

6. $\int \frac{\mathrm{x} - 1}{x^4 + 2x^3 + 5x^2} dx$

7. $\int \frac{cos^5 x}{sin^2 x} dx$

8. $\int tg^3 x\, dx$

9. $\int \frac{3-x}{1+\sqrt[3]{x-2}} dx$

10. $\int x^2 \sqrt{x^2 - 4}\ dx$

Вариант 8.

1. $\int 2^{2x} \cdot 3^{3x} \cdot 4^{4x} dx$

2. $\int \frac{8x^3 - 2x}{\sqrt{1 - x^4}} dx$

3. $\int \frac{(2x - 4)dx}{\sqrt{x^2 + 4x + 5}}$

4. $\int arctg(2x)\, dx$

5. $\int \frac{x^5 + 1}{x^4 - 9x^2} dx$

6. $\int \frac{x^2}{x^3 + 8} dx$

7. $\int \frac{sin^5 x}{cos^3 x} dx$

8. $\int \frac{\cos x}{2 + \sin x - 3\cos x} dx$

9. $\int \frac{\sqrt[3]{x} + 2}{\sqrt{x} + \sqrt[6]{x}} dx$

10. $\int \frac{\sqrt{9 - x^2}}{x^2}\ dx$

Вариант 9.

1. $\int \frac{\sqrt{x}-8}{\sqrt{x}-2\sqrt[3]{x}}dx$

2. $\int \frac{x^4+2+\sin\ln x}{\mathrm{x}}dx$

3. $\int \frac{(5-3\mathrm{x})dx}{x^2+x+1}$

4. $\int \cos\ln x\,dx$

5. $\int \frac{x^4}{x^4-8x^2+16}dx$

6. $\int \frac{1}{(x^2-2\mathrm{x}+5)(x^2+1)}dx$

7. $\int \frac{sin^5x}{cos^2x}dx$

8. $\int ctg^6x\,dx$

9. $\int \frac{x-3}{\sqrt{x+1}+3}dx$

10. $\int x^2\sqrt{x^2+4}\;dx$

Вариант 10.

1. $\int e^x(5-\frac{e^{-x}}{\sqrt[3]{x}})dx$

2. $\int \frac{5-\sqrt{arctg\ x}}{x^2+1}dx$

3. $\int \frac{(2x+5)dx}{\sqrt{1-x+x^2}}$

4. $\int ln^2 x\ dx$

5. $\int \frac{x^3}{x^3-4x^2+5x-2}dx$

6. $\int \frac{\mathrm{x}}{x^4+5x^2+4}dx$

7. $\int sin^7 x\ dx$

8. $\int \frac{dx}{cos^2 x\ sin^6 x}$

9. $\int \frac{\sqrt[3]{x}-3}{\sqrt{x}+2\sqrt[3]{x}}dx$

10. $\int \frac{\sqrt{x^2-9}}{x^2}\ dx$

Вариант 11

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

2. $\int \frac{dx}{x\sqrt{1-\ln^2 x}}$

3. $\int \frac{(3x-5)\,dx}{\sqrt{-4x-x^2}}$

4. $\int x^2 \cos x dx$

5. $\int \frac{x^3+2}{x^3-4x}dx$

6. $\int \frac{3x-5}{x^4-4x^3+8x^2}dx$

7. $\int \frac{\cos^8 x dx}{\sin^2 x}$

8. $\int \frac{(8+tgx)dx}{18\sin^2 x+2\cos^2 x}$

9. $\int \sqrt{\frac{6-x}{x-14}}dx$

10. $\int \frac{dx}{\sqrt{(5-x^2)^3}}$

Вариант 12

1. $\int \frac{x^5 + x^2 \cdot 3^x - \sqrt{x}}{x^2} dx$

2. $\int \sqrt{1+\cos x} \sin x dx$

3. $\int \frac{(x+8)dx}{x^2 - 6x + 13}$

4. $\int x^3 \ln x dx$

5. $\int \frac{(x^3 + x^2 + 1)dx}{x^3 - 5x^2 + 6x} =$

6. $\int \frac{(x^2 + 1)dx}{x^2(x^2 + 4)}$

7. $\int \frac{\sin^2 x}{\cos^8 x} dx$

8. $\int \frac{\cos x dx}{(1-\cos x)^3}$

9. $\int \sqrt{\frac{9-2x}{2x-21}} dx$

10. $\int \frac{dx}{(9+x^2)^{\frac{3}{2}}}$

Вариант 13

1. $\int \frac{(2-x)^2\,dx}{x(x^2+4)}$

2. $\int \sin^4 x \sin 2x dx$

3. $\int \frac{(5-x)\,dx}{\sqrt{9+8x-x^2}}$

4. $\int (x^2-6x+5)2^x\,dx$

5. $\int \frac{x+2}{x^3-9x}\,dx$

6. $\int \frac{xdx}{(x-1)^2(x^2-2x+2)}$

7. $\int 256\sin^8 x dx$

8. $\int \frac{3+2tgx}{2\sin^2 x+3\cos^2 x-1}\,dx$

9. $\int \frac{x\sqrt{1+x}}{\sqrt{1-x}}\,dx$

10. $\int \frac{\sqrt{x^2-4}}{x^4}\,dx$

Вариант 14

1. $\int (2^x + 3^x)^3 dx$

2. $\int \frac{x^5 dx}{1+x^{12}}$

3. $\int \frac{(4x+7)dx}{x^2 - 10x + 50}$

4. $\int e^{3x} \cos 5x dx$

5. $\int \frac{2x^3 - 40x - 8}{x(x+4)(x-2)} dx$

6. $\int \frac{3x^3 + x + 46}{(x-1)^2 (x^2+9)} dx$

7. $\int \sin^2 x \cos^6 x dx$

8. $\int \frac{2ctgx + 1}{(2\sin x + \cos x)^2} dx$

9. $\int \frac{1 - \sqrt[6]{x} + 2\sqrt[3]{x}}{x + 2\sqrt{x^3} + \sqrt[3]{x^4}} dx$

10. $\int x^2 \sqrt{1 - x^2} dx$

Вариант 15

1. $\int (\cos^4 \frac{x}{2} + \sin^4 \frac{x}{2}) dx$

2. $\int \frac{e^x dx}{1+e^{2x}}$

3. $\int \frac{(5x-4)dx}{\sqrt{3+2x-x^2}}$

4. $\int \frac{\ln x dx}{\sqrt[3]{x}}$

5. $\int \frac{x^3+1}{x^2-x} dx$

6. $\int \frac{x^3+2x^2+10x}{(x+1)^2(x^2-x+1)} dx$

7. $\int \sin^2 x \cos^6 x dx$

8. $\int \frac{dx}{\sin^2 x(1-\cos x)}$

9. $\int \frac{x+\sqrt{3x-2}-10}{\sqrt{3x-2}+7} dx$

10. $\int \frac{dx}{\sqrt{(4-x^2)^3}}$

Вариант 16

1. $\int \frac{(1-4ctg^2 x)dx}{\cos^2 x}$

2. $\int \frac{e^{\arcsin x}+x-1}{\sqrt{1-x^2}}dx$

3. $\int \frac{3x-1}{\sqrt{1-6x-x^2}}dx$

4. $\int e^{\sqrt{x}}dx$

5. $\int \frac{2x^5-2x^4+4}{x^4-4x^2}dx$

6. $\int \frac{x^2+2x+4}{x^4-5x^2+4}dx$

7. $\int \frac{\cos^5 xdx}{\sin^3 x}$

8. $\int \frac{\sin x+\cos x}{3+\sin 2x}dx$

9. $\int \frac{1}{(x+1)^2}\sqrt{\frac{1-x}{1+x}}dx$

10. $\int \frac{5xdx}{\sqrt{1+x^4}}$

Вариант 17

1. $\int \frac{(1-\cos 2x)dx}{6\sin x}$

2. $\int \frac{\sqrt{4-e^{-x}x}}{e^{x}}dx$

3. $\int \frac{5x-2}{\sqrt{-6x+x^{2}}}dx$

4. $\int x\ln\frac{1+x}{1-x}dx$

5. $\int \frac{3x^{3}+1}{x^{2}-1}dx$

6. $\int \frac{x^{3}+4x^{2}+4x+2}{(x+1)^{2}(x^{2}+x+1)}dx$

7. $\int \frac{dx}{\sqrt{\sin x\cos^{3} x}}$

8. $\int \frac{(1+ctgx)dx}{1-cgtx}$

9. $\int \frac{5x+\sqrt{4x+4}}{\sqrt[3]{8x+8}}dx$

10. $\int \frac{dx}{x^{4}\sqrt{x^{2}-1}}$

Вариант 18.

1. $\int \frac{\sin 3x - \sin 5x}{\cos 4x} dx$

2. $\int \frac{\ln x dx}{x\sqrt{1-\ln x}}$

3. $\int \frac{3x-1}{\sqrt{4-6x+2x^2}} dx$

4. $\int \frac{arctge^x}{e^x} dx$

5. $\int \frac{-x^5+9x^3+4}{x^2+3x} dx$

6. $\int \frac{x}{x^4-4x^2+3} dx$

7. $\int \frac{\sin^3 x dx}{\sqrt{\cos x}}$

8. $\int \frac{\cos^3 x dx}{4\sin^2 x - 1}$

9. $\int \frac{dx}{\sqrt{x+3}+\sqrt[3]{x+3}}$

10. $\int \frac{dx}{x\sqrt{x^2+x+1}}$

Вариант 19.

1. $\int \frac{tg\frac{x}{2}}{1-tg^2\frac{x}{2}}dx$

2. $\int \frac{2^{arctgx}+2x^2}{1+x^2}dx$

3. $\int \frac{2x-3}{\sqrt{1-x-x^2}}dx$

4. $\int x\arcsin\frac{1}{x}dx$

5. $\int \frac{2x^2+4}{(x-4)(x+2)}dx$

6. $\int \frac{5x-13}{(x^2-5x+6)^2}dx$

7. $\int ctg^3 3xdx$

8. $\int \frac{dx}{\sin^2 x-5\cos x\sin x}$

9. $\int \sqrt{\frac{2-x}{x-6}}dx$

10. $\int x\sqrt{x^2+2x+2}dx$

Вариант 20.

1. $\int \frac{\cos^2 x}{1-\sin x} dx$

2. $\int x^2 ctg^2(x^3-3)dx$

3. $\int \frac{3x+2}{\sqrt{1-x-2x^2}} dx$

4. $\int \frac{\ln(\sin x)}{\sin^2 x} dx$

5. $\int \frac{x^3}{(x-1)(x+1)(x+2)} dx$

6. $\int \frac{x^3+6x^2+13x+9}{(x+1)(x+2)^2} dx$

7. $\int \sin 6x \cos^3 x dx$

8. $\int \frac{\sin 2x dx}{-\sin^2 x+\cos^3 x-1}$

9. $\int \frac{dx}{(2-x)\sqrt{1-x}}$

10. $\int \frac{dx}{(1-x^2)\sqrt{1-x^4}}$