RAVI MATHS TUITION & TEST PAPERS , WHATSAPP 8056206308

Integrals 1

12th Standard

Maths

Multiple Choice Question 16 x 1 = 16

1) $\int \frac{1}{x(\log x)^2} dx$ is equal to

(a) 2 log(log x) + C (b) $-\frac{1}{\log x} + C$ (c) $\frac{(\log x)^3}{3} + C$ (d) $\frac{3}{(\log x)^3} + C$

2) The value of $\int_{-1}^{1} x|x|dx$ is

(a) $\frac{1}{6}$ (b) $\frac{1}{3}$ (c) $-\frac{1}{6}$ (d) 0

3) The integral $\int \frac{dx}{\sqrt{9-4x^2}}$ is equal to

(a) $\frac{1}{6}\sin^{-1}\left(\frac{2x}{3}\right) + C$ (b) $\frac{1}{2}\sin^{-1}\left(\frac{2x}{3}\right) + C$ (c) $\sin^{-1}\left(\frac{2x}{3}\right) + C$ (d) $\frac{3}{2}\sin^{-1}\left(\frac{2x}{3}\right) + C$

4) If $\int_{-2}^{3} x^2 dx = k\int_{0}^{2} x^2 dx + \int_{2}^{3} x^2 dx$, then the value of k is

(a) 2 (b) 1 (c) 0 (d) $\frac{1}{2}$

5) The value of $\int_{1}^{e} \log x dx$ is

(a) 0 (b) 1 (c) e (d) e log e

6) If $\frac{d}{dx} f(x) = \log x$, then f(x) equals

(a) $-\frac{1}{x} + C$ (b) $x(\log x - 1) + C$ (c) $x(\log x + x) + C$ (d) $\frac{1}{x} + C$

7) $\int \frac{\sec x}{\sec x - \tan x} dx$ equals

(a) $\sec x - \tan x + C$ (b) $\sec x + \tan x + C$ (c) $\tan x - \sec x + C$ (d) $-(\sec x + \tan x) + C$

8) $\int 2^{x+2} dx$ is equal to

(a) $2^{x+2} + C$ (b) $2^{x+2}\log 2 + C$ (c) $\frac{2^{x+2}}{\log 2} + C$ (d) $2 \cdot \frac{2^x}{\log 2} + C$

9) $\int e^{5\log x} dx$ is equal to

(a) $\frac{x^5}{5} + C$ (b) $\frac{x^6}{6} + C$ (c) $5x^4 + C$ (d) $6x^5 + C$

10) If $f'(x) = x + \frac{1}{x}$, then f(x) is

(a) $x^2 + \log|x| + C$ (b) $\frac{x^2}{2} + \log|x| + C$ (c) $\frac{x}{2} + \log|x| + C$ (d) $\frac{x}{2} - \log|x| + C$

11) If value of $\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot\theta \operatorname{cosec}^2\theta d\theta$ is

(a) $\frac{1}{2}$ (b) $-\frac{1}{2}$ (c) 0 (d) $-\frac{\pi}{8}$

12) $\int_{0}^{4} \left(e^{2x} + x\right) dx$ is equal to

(a) $\frac{15+e^8}{2}$ (b) $\frac{16-e^8}{2}$ (c) $\frac{e^8-15}{2}$ (d) $\frac{-e^8-15}{2}$

13) If $\int_{0}^{a} 3x^2 dx = 8$, then the value of ' a ' is

(a) 2 (b) 4 (c) 8 (d) 10

14) $\int_{-1}^{1} \frac{|x-2|}{x-2} dx, x \neq 2$ is equal to

(a) 1 (b) -1 (c) 2 (d) -2

15) $\int_{0}^{\frac{\pi}{6}} \sec^2\left(x - \frac{\pi}{6}\right) dx$ is equal to

(a) $\frac{1}{\sqrt{3}}$ (b) $-\frac{1}{\sqrt{3}}$ (c) $\sqrt{3}$ (d) $-\sqrt{3}$

16) For any integer n, the value of $\int_0^{\pi} e^{\sin^2 x} \cos^3(2n+1)x dx$ is

(a) -1 (b) 0 (c) 1 (d) 2

Assertion and reason 1 x 1 = 1

17) Assertion (A) : $\int_2^8 \frac{\sqrt{10-x}}{\sqrt{x}+\sqrt{10-x}} dx = 3$

Reason (R) : $\int_a^b f(x)dx = \int_a^b f(a+b-x)dx$

(a) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(b) Both (A) and (R) are correct but (R) is not the correct explanation of (A).

(c) (A) is correct but (R) is incorrect.

(d) Both (A) and (R) are incorrect.

2 Marks 99 x 2 = 198

18) Evaluate the integral: $\int \frac{x^2}{1+x^3} dx$.

19) Evaluate the integral: $\int \frac{2cos\ x}{3sin^2} dx$.

20) Evaluate the integral: $\int \frac{(1+log\ x)^2}{x} dx$

21) Evaluate the integral: $\int sec^2\ (7-x)dx$

22) Evaluate the integral: $\int \frac{cos\sqrt{x}}{\sqrt{x}} dx$

23) Evaluate the integral: $\int \frac{1}{x + x\ log\ x} dx$

24) Evaluate the integral: $\int \frac{e^{2x} - e^{-2x}}{e^{2x}+e^{-2x}} dx$

25) Evaluate the integral: $\int \frac{log\ x}{x} dx$

26) Evaluate the integral: $\int sec\ x\ (sec\ x\ +\ tan\ x)dx$

27) Evaluate the integral: $\int \frac{dx}{x^2 + 16}$

28) Evaluate the integral: $\int \frac{sec^2\ x}{cosec^2 x} dx$.

29) Evaluate the integral: $\int \frac{2-3\ sin\ x}{cos^2\ x} dx$

30) Evaluate the integral: $\int (1-x)\sqrt{x}\ dx$

31) If $\int (ax\ +\ b)^2 dx\ =\ f\ (x)\ +\ c$, find f (x).

32) Given $\int e^x (tan\ x\ +\ 1)\ sec\ x\ dx\ =\ e^x\ f(x)\ +\ c$. Write the value of f(x).

33) If $\int (\frac{x-1}{x^2}) e^x dx\ =\ f(x)e^x\ +\ c$, then write the value of f(x).

34) Evaluate the integral: $\int \frac{2}{1+cos2x} dx$

35) Find: $\int \frac{sin^2 x - cos^2 x}{sin^2 x cos^2 x} dx$

36) Find: $\int \frac{sin^6 x}{cos^8 x} dx$

37) Write the anti-derivative of $\left(\sqrt[3]{x} + \frac{1}{\sqrt{x}}\right)$

38) Evaluate: $\int \frac{dx}{sin^2 x cos^2 x}$

39) Write the value of $\int \frac{x+cos6x}{3x^2+sin6x} dx$

40) Evaluate: $\int (1-x)\sqrt{x} dx$

41) $\int e^x\ [secx + log(secx + tanx]\ dx$

42) Evaluate : $\int_2^3 \frac{1}{x} dx$

43) Evaluate : $\int_1^3 \frac{dx}{9+x^2}$

44) Evaluate : $\int_0^{\frac{\pi}{2}} e^x (sinx + cosx) dx$

45) Evaluate : $\int_0^{\frac{\pi}{4}} tanxdx$

46) Evaluate : $\int_0^{\pi/4} sin2xdx$

47) $\int_0^a 3x^2dx = 8$, then write the value of a.

48) Evaluate thefollowing integral.
$\int \frac{3x}{3x-1}dx$

49) Evaluate thefollowing integral.
$\int \frac{2\cos x}{\sin^2 x}dx$

50) Evaluate thefollowing integral.
$\int \frac{\cos 2x+2\sin^2 x}{\cos^2 x}dx$

51) Evaluate thefollowing integral.
$\int \frac{\sin^2 x-\cos^2 x}{\sin x\cos x}dx$

52) Evaluate thefollowing integral.
$\int \frac{2+3\cos x}{\sin^2 x}dx$

53) Verifythe following, using the concept of integration as an anti-derivative.
$\int \frac{x^3}{x+1}dx = x - \frac{x^2}{2} + \frac{x^3}{3} - \log|x+1| + C$

54) Evaluate the following integral
$\int \frac{x}{\sqrt{32-x^2}}dx$

55) Evaluate the following integral.
$\int \frac{dx}{5-8x-x^2}$

56) Evaluate the following integral.
$\int e^x \sec x(1+\tan x)dx$

57) Evaluate $\int_0^3 \frac{dx}{9+x^2}$

58) Evaluate the following integral.
$\int_e^{e^2} \frac{dx}{x\log x}$

59) Evaluate the following integral.
$\int_2^4 \frac{x}{x^2+1}dx$

60) Evaluate the following integral.
$\int_0^1 xe^{x^2}dx$

61) Evaluate $\int \frac{1}{1+e^x}dx$

62) Find $\int \cos^3 xe^{\log\sin x}dx$

63) Find $\int \frac{1}{5+4x-x^2}dx$

64) Find $\int e^x\left(1-\cot x+\operatorname{cosec}^2 x\right)dx.$

65) Find $\int \sin^5\left(\frac{x}{2}\right)\cdot\cos\frac{x}{2}dx$

66) Find $\int \frac{2^{x+1}-5^{x-1}}{10^x}dx$

67) Find $\int \frac{dx}{\sqrt{x}+x}.$

68) Find $\int \frac{1}{x(1+x^2)}dx$

69) Find $\int \frac{\sin^2 x-\cos^2 x}{\sin x\cos x}dx$

70) Evaluate $\int \frac{dx}{\sin^2 x\cos^2 x}.$

71) Evaluate $\int \cos^{-1}(\sin x)dx$

72) Write the anti-derivative of $\left(3\sqrt{x}+\frac{1}{\sqrt{x}}\right)$

73) Evaluate $\int(1-x)\sqrt{x}dx$

74) Given, $\int e^x(\tan x+1)\sec xdx=e^xf(x)+C$. Write f(x) satisfying above.

75) Evaluate $\int\frac{2}{1+\cos 2x}dx$

76) Write the value of $\int\frac{x+\cos 6x}{3x^2+\sin 6x}dx$

77) Write the value of $\int\frac{\sec^2 x}{\text{cosec}^2\ x}dx$

78) Write the value of $\int\frac{dx}{x^2+16}$

79) Write the value of $\int\frac{2-3\sin x}{\cos^2 x}dx$

80) Write the value of $\int\sec x(\sec x+\tan x)dx$

81) Evaluate $\int\frac{(\log x)^2}{x}dx$

82) Evaluate $\int\frac{e^{\tan^{-1}x}}{1+x^2}dx$

83) Evaluate $\int(ax+b)^3dx$

84) Evaluate $\int\frac{(1+\log x)^2}{x}dx$

85) Evaluate $\int\frac{e^{2x}-e^{-2x}}{e^{2x}+e^{-2x}}dx$

86) Evaluate $\int\frac{\cos\sqrt{x}}{\sqrt{x}}dx$

87) Evaluate $\int\frac{x^3-x^2+x-1}{x-1}dx$

88) Write the value of $\int\frac{1-\sin x}{\cos^2 x}dx$

89) Find $\int\frac{dx}{x^2-6x+13}$

90) Find $\int\frac{\log x}{(1+\log x)^2}dx$

91) Find $\int\frac{\sin 2x}{\sqrt{9-\cos^4 x}}dx$

92) Find $\int\frac{1}{\cos^2 x(1-\tan x)^2}dx$

93) Find $\int\frac{x^2+1}{(x^2+2)(x^2+3)}dx$

94) Find $\int\frac{x}{x^2+3x+2}dx$

95) Evaluate $\int_{-\pi/2}^{\pi/2}x^2\sin xdx$

96) If [x] denotes the greatest integer function, then find $\int_0^{3/2}\left[x^2\right]dx$

97) Evaluate $\int_0^{2\pi}|\sin x|dx$

98) If $\int_0^a\frac{dx}{1+4x^2}=\frac{\pi}{8}$, then find the value of a

99) Find the value of $\int_1^4|x-5|dx$

100) Evaluate $\int_2^3 3^xdx$

101) Evaluate $\int_0^1 xe^{x^2}dx$

102) Evaluate $\int_0^1\frac{1}{\sqrt{1-x^2}}dx$

103) If $f(x)=\int_0^x t\sin tdt$, then write the value of $f'(x)$

104) Evaluate $\int_2^4\frac{x}{x^2+1}dx$

105) Evaluate $\int_0^{\pi/2}e^x(\sin x-\cos x)dx$

106) Evaluate $\int_e^{e^2} \frac{dx}{x \log x}$

107) Evaluate $\int_1^2 \frac{x^3-1}{x^2} dx$

108) Evaluate $\int_0^{\pi/4} \tan x dx$

109) Evaluate $\int_0^2 \sqrt{4-x^2} dx$

110) Write the value of $\int_0^1 \frac{e^x}{1+e^{2x}} dx$

111) Evaluate $\int_2^3 \frac{1}{x} dx$

112) Evaluate $\int_{-1}^1 \log_e \left(\frac{2-x}{2+x}\right) dx$

113) Evaluate $\int_0^1 x(1-x)^n dx$

114) Evaluate $\int_1^2 \left[\frac{1}{x} - \frac{1}{2x^2}\right] e^{2x} dx$

115) Evaluate $\int_{-\pi}^{\pi} \left(1-x^2\right) \sin x \cdot \cos^2 x dx$

116) Evaluate $\int_{-1}^2 \frac{|x|}{x} dx$

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Integrals 2

12th Standard

Maths

3 Marks 180 x 3 = 540

1) Evaluate the integral $\int \frac{x}{x^4-x^2+1}dx$

2) Evaluate the integral $\int \frac{cos\ (x+a)}{sin(x+b)}dx$

3) Evaluate the integral: $\int \sqrt{tan\ x}\ dx.$

4) Evaluate the integral: $\int \frac{(x-4)e^x}{(x-2)^3}dx$

5) Evaluate the integral: $\int e^x(\frac{sin4x-4}{1-cos\ 4x})dx$

6) Evaluate the integral: $\int \frac{1-x^2}{x(1-2x)}dx$

7) Evaluate the integral: $\int \frac{x+2}{\sqrt{(x-2)(x-3)}}dx$

8) Evaluate the integral: $\int \frac{x^2-3x}{(x-1)(x-2)}dx$

9) Evaluate the integral: $\int e^{2x}\ sin\ x\ dx.$

10) Evaluate the integral: $\int \frac{3x+5}{\sqrt{x^2-8x+7}}dx$

11) Evaluate the integral: $\int \frac{x\ sin^{-1}x}{\sqrt{1-x^2}}dx$

12) Evaluate the integral: $\int \frac{x^2+1}{(x-1)^2(x+3)}dx$

13) Evaluate the integral: $\int x^2\ tan^{-1}\ x\ dx$

14) Evaluate the integral: $\int \frac{3x-1}{(x+2)^2}dx$

15) Evaluate the integral: $\int \frac{5x-2}{1+2x+3x^2}dx$

16) Evaluate the integral: $\int \frac{x^2}{(x^2+4)(x^2+9)}dx$

17) Evaluate the integral: $\int \frac{x^2+1}{(x^2+4)(x^2+25)}dx$

18) Evaluate the integral: $\int \frac{dx}{x(x^5+3)}$

19) Evaluate the integral: $\int \frac{sin\ x+cos\ x}{9+16\ sin\ 2x}dx$

20) Evaluate the integral: $\int x^2log(1+x)dx.$

21) Evaluate the integral: $\int \frac{x^2+1}{x^2-5x+6}dx.$

22) Evaluate the integral: $\int \frac{1-x^2}{x-2x^2}dx.$

23) Evaluate the integral: $\int \frac{(3\ sin\ x-2)cos\ x}{5-cos^2\ x-4\ sin\ x}dx$

24) Evaluate the integral: $\int e^{2x}(\frac{1-sin\ 2x}{1-cos\ 2x})dx$

25) Evaluate the integral: $\int \frac{3x+5}{x^3-x^2-x+1}dx$

26) Evaluate the integral: $\int \frac{sin(x-\alpha)}{sin(x+\alpha)}dx$

27) Evaluate the integral: $\int \frac{x}{x^3+x^2+x+1}dx.$

28) Evaluate the integral: $\int_2^3 \frac{1}{x}dx$

29) Evaluate the integral: $\int_0^2 \sqrt{4-x^2}dx.$

30) If $\int_0^1 (3x^2+2x+k)dx = 0,$ find the value of k.

31) If $\int_0^\alpha 3x^2dx = 8$ write the value of a.

32) Evaluate the integral: $\int_0^{1/\sqrt{2}} \frac{(sin^{-1}\,x)}{(1-x^2)^{3/2}}dx.$

33) Evaluate the integral: $\int_0^{\pi/2} log(sinx)\,dx.$

34) Evaluate the integral: $\int_0^{\pi} \frac{x\,sin\,x}{1+cos^2\,x}dx.$

35) Evaluate the integral: $\int_0^1 cot^{-1}(1-x+x^2)dx.$

36) Evaluate the integral: $\int_0^1 \frac{log(1+x)}{1+x^2}dx.$

37) Evaluate the integral: $\int_0^{\pi} \frac{x\,tan\,x}{sec\,x+tan\,x}dx.$

38) Evaluate the integral: $\int_0^{\pi} \frac{e^{cos\,x}}{e^{cos\,x}+e^{-cos\,x}}dx.$

39) Evaluate the integral: $\int_0^{\pi/2} (2\,log\,sin\,x - log\,sin\,2x)\,dx.$

40) Evaluate the integral: $\int_0^4 [\,|x-1| + |x-2| + |x-4|]dx$

41) Evaluate the integral: $\int_{\pi/6}^{\pi/3} \frac{sin\,x+cos\,x}{\sqrt{sin\,2x}}dx.$

42) Evaluate the integral: $\int_0^1 x^2(1-x)^n\,dx$

43) Evaluate the integral: $\int_0^{\pi} \frac{x}{1+sin\,x}dx.$

44) Evaluate the integral: $\int_{-5}^5 |x+2|dx.$

45) Evaluate the integral: $\int_{-1}^{3/2} |x\,sin\,\pi\,x|dx$

46) Evaluate the integral: $\int_0^{3/2} |x\,cos\,\pi x|dx.$

47) Evaluate the integral: $\int_0^{\pi/2} 2sin\,x\,cos\,x\,tan^{-1}(sin\,x)dx.$

48) Evaluate the integral: $\int_0^{\pi/2} \frac{x\,sin\,x\,cos\,x}{sin^4\,x+cos^4\,x}dx$

49) Evaluate the integral: $\int_0^{\pi/2} \frac{x+sin\,x}{1+cos\,x}dx$

50) Evaluate the integral: $\int_0^{\pi/4} \frac{sin\,x+cos\,x}{9+16\,sin2x}dx.$

51) Prove that $\int_0^{\pi/4} log(1+tan\,\theta)d\theta = \frac{\pi}{8}log\,2.$

52) Prove that $\int_0^a f(x)\,dx = \int_0^a f(a-x)\,dx$ and hence, prove that $\int_0^{\pi/2} \frac{sin\,x}{sin\,x+cos\,x}dx = \frac{\pi}{4}.$

53) Prove that $\int_{-a}^a \sqrt{\frac{a-x}{a+x}}dx = a\pi.$

54) Prove that $\int_0^{\pi/4} (\sqrt{tan\,x}+\sqrt{cot\,x})dx = \sqrt{2}.\,\frac{\pi}{2}$

55) Integrate: $\int_0^3 (2x^2+3x+5)dx.$

56) Integrate: $\int_0^1 3x^2+2x+1dx.$

57) Integrate: $\int_1^4 (x^2-x)dx.$

58) Integrate: $\int_1^3 (3x^2+2x)dx$

59) Integrate the following w.r.t. x: $\frac{x^2-3x+1}{\sqrt{1-x^2}}.$

60) Find: $\int \frac{\sqrt{x}}{\sqrt{a^3-x^3}}dx$

61) Evaluate: $\int \frac{x^2}{(x^2+4)(x^2+9)}dx.$

62) Find: $\int \frac{x^2 dx}{x^4+x^2-12}$

63) Find: $\int \frac{x^2}{x^4+3x^2+2} dx$

64) Evaluate: $\int (3x-2)\sqrt{x^2+x+1} dx$

65) Find: $\int \frac{x}{(x^2+1)(x-1)} dx$

66) Find : $\int (x+3)\sqrt{3-4x-x^2} dx$

67) Find : $\int \frac{5x-2}{1+2x+3x^2} dx$

68) Evaluate: $\int (x+3)\sqrt{x^2+3x-18} dx$

69) Evaluate: $\int \frac{x+2}{\sqrt{x^2+5x+6}} dx$

70) Evaluate : $\int \frac{2x^2+1}{x^2(x^2+4)} dx$

71) Evaluate : $\int \frac{5x+3}{\sqrt{x^2+4x+10}} dx$

72) Evaluate : $\int \frac{2}{(1-x)(1+xx^2)} dx$

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

74) Find : $\int (3x+5)\sqrt{4+3x-2x^2} dx$

75) Find : $\int \frac{(2x-5)e^{2x}}{(2x-3)^3} dx$

76) Evaluate : $\int \frac{\sqrt{x}}{a^3-x^3} dx$

77) Find : $\int e^{ax} cos(bx+c) dx$

78) Find : $\int \frac{x+3}{\sqrt{5-4x-2x^2}} dx$

79) Evaluate the following indefinite integral:
$\int \frac{1}{sinx-sin2x} dx$

80) Evaluate the following indefinite integral:
$\int \frac{sin\phi}{\sqrt{sin^2\phi+2cos\phi+3}} d\phi$

81) Find : $\int \frac{dx}{sinx+sin2x}$

82) Integrate the following w.r.t.x:
$\frac{x^2-3x+1}{\sqrt{1-x^2}}$

83) Find : $\int \frac{xcos^{-1}x}{\sqrt{1-x^2}} dx$

84) Evaluate : $\int \frac{sin^6 x+cos^6 x}{sin^2 x.cos^2 x} dx$

85) Evaluate : $\int \frac{(3sinx-2)cosx}{5-cos^2 x-4sinx} dx$

86) Evaluate : $\int \frac{sinx+cosx}{9+16sin2x} dx$

87) Evaluate : $\int sinxsin2xsin3x dx$

88) Evaluate : $\int x^2 tan^{-1} x dx$

89) Evaluate : $\int_0^{\pi} e^{2x} sin\left(\frac{\pi}{4}+x\right) dx$

90) Evaluate : $\int_{-\pi}^{\pi} (cosax - sinbx)^2 dx$

91) Evaluate : $\int_0^{\frac{\pi}{2}} \frac{dx}{1+\sqrt{tanx}}$

92) Evaluate : $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{sinx+cosx}{\sqrt{sin2x}} dx$

93) Evaluate : $\int_0^{\pi} \frac{4xsinx}{1+cos^2 x} dx$

94) $\sin y = x\sin(a+y), \quad$ prove that: $\frac{dy}{dx} = \frac{\sin^2(a+y)}{\sin a}$

95) Evaluate: $\int_0^{\pi} \frac{xtanx}{scex+tanx}dx$

96) Evaluate: $\int_0^1 x\left(tan^{-1}\right)dx$

97) Evaluate: $\int_0^{\frac{\pi}{4}} \frac{sinx+cosx}{9+16sin2x}dx$

98) Evaluate: $\int_{-2}^{2} \frac{x^2}{1+5^x}dx$

99) Prove that $\int_0^{\frac{\pi}{4}} \left(\sqrt{tanx}+\sqrt{cotx}\right)dx = \sqrt{2}\frac{\pi}{2}$

100) Evaluate $\int \frac{e^{\tan^{-1}x}}{1+x^2}dx$

101) Evaluate $\int \frac{x+2}{2x^2+6x+5}dx$

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

103) Evaluate the following integral
$\int \frac{dx}{x(x^3+8)}$

104) Evaluate the following integral
$\int \frac{\sin x - x\cos x}{x(x+\sin x)}dx$

105) Evaluate the following integral
$\int \frac{\cos 2x - \cos 2\alpha}{\cos x - \cos\alpha}dx$

106) Evaluate the following integral
$\int \sin x \sin 2x \sin 3x dx$

107) Evaluate the following integral.
$\int \frac{(3\sin x - 2)\cos x}{13 - \cos^2 x - 7\sin x}dx$

108) Evaluate the following integral
$\int \frac{x+2}{\sqrt{x^2+5x+6}}dx$

109) Evaluate the following integral
$\int \frac{6x+7}{\sqrt{(x-5)(x-4)}}dx$

110) Evaluate the following integral.
$\int \frac{(3\sin\phi - 2)\cos\phi}{5 - \cos^2\phi - 4\sin\phi}d\phi$

111) Evaluate the following integral.
Find $\int \frac{2\cos x}{(1-\sin x)(1+\sin^2 x)}dx$

112) Evaluate the following $\int \frac{(3\sin\phi - 2)\cos\phi}{5 - \cos^2\phi - 4\sin\phi}d\phi$

113) Evaluate the following integral.
$\int \frac{dx}{\sin x + \sin 2x}$

114) Evaluate the following integral
$\int \frac{2}{(1-x)(1+x^2)}dx$

115) Evaluate the following integral.
$\int \frac{2x}{(x^2+1)(x^4+4)}dx$

116) Evaluate the following integral.
$\int \frac{dx}{x(x^3+1)}$

117) Evaluate the following integral.
$\int \frac{1}{(x^4-1)}dx$

118) Evaluate the following integral.
$\int \frac{x^2}{(x-1)(x^2+1)}dx$

119) Evaluate the following integral.
$\int \frac{x^4}{(x-1)(x^2+1)} dx$

120) Evaluate the following integral.
$\int \frac{\cos\theta}{(4+\sin^2\theta)(5-4\cos^2\theta)} dt$

121) Evaluate the following integral.
$\int \frac{\sin^{-1}\sqrt{x}-\cos^{-1}\sqrt{x}}{\sin^{-1}\sqrt{x}+\cos^{-1}\sqrt{x}} dx$

122) Evaluate the following integral
$\int \frac{x^2}{(x\sin x+\cos x)^2} dx$

123) Evaluate the following integral
$\int (x+3)\sqrt{3-4x-x^2} dx$

124) Evaluate the following integral
$\frac{x^2-3x+1}{\sqrt{1-x^2}} dx$

125) Evaluate the following integral
$\int \frac{(x^2+1)e^x}{(x+1)^2} dx$

126) Evaluate the following integral
$\int e^{2x}\left(\frac{1-\sin 2x}{1-\cos 2x}\right) dx$

127) Evaluate $\int_0^1 x\left(\tan^{-1}x\right) dx$

128) If $f(x) = \int_0^x t\sin t dt$ then write the value of f '(x).

129) Evaluate the following integral.
$\int_0^{1/\sqrt{2}} \frac{\sin^{-1}x}{(1-x^2)^{3/2}} dx$

130) Evaluate the following integral.
$\int_0^{\pi/4} \frac{dx}{\cos^3 x\sqrt{2\sin 2x}}$

131) Evaluate the following integral
$\int_0^{\pi/4} \frac{\sin x+\cos x}{9+16\sin 2x} dx$

132) Evaluate the following integral.
$\int_{-2}^{2} \frac{x^2}{1+5^x} dx$

133) Evaluate the following integral.
$\int_0^{\pi/2} \frac{dx}{1+\sqrt{\tan x}}$

134) Evaluate the following integral.
$\int_{\pi/6}^{\pi/3} \frac{dx}{1+\sqrt{\cot x}}$

135) Evaluate the following integral.
$\int_{\pi/6}^{\pi/3} \frac{dx}{1+\sqrt{\tan x}}$

136) Evaluate the following integral.
$\int_0^1 \tan^{-1}\left(\frac{2x-1}{1+x-x^2}\right) dx$

137) Evaluate $\int_1^4 \{|x-1|+|x-2|+|x-4|\} dx$

138) Evaluate $\int_{-1}^{2} |x^3-x| dx$

139) Evaluate $\int_0^{3/2} |x\cos\pi x| dx$

140) Evaluate $\int_0^{\pi} \frac{x\tan x}{\sec x+\tan x} dx$

141) Evaluate $\int_0^{\pi/4} \log(1+\tan x) dx$

142) Evaluate $\int_2^5 [|x-2|+|x-3|+|x-5|]dx$

143) Evaluate $\int_{\pi/6}^{\pi/3} \frac{\sin x+\cos x}{\sqrt{\sin 2x}}dx$

144) Evaluate the following definite integral as limit of sums.
$\int_0^4 \left(3x^2+2x+1\right)dx$

145) Evaluate $\int \sqrt{1+\sin\frac{x}{4}}dx$

146) Find $\int \frac{\sec^2 x}{\sqrt{\tan^2 x+4}}dx$

147) Find $\int \sqrt{1-\sin 2x}dx, \frac{\pi}{4}<x<\frac{\pi}{2}$

148) Find $\int \sin^{-1}(2x)dx$

149) Find the values of $\int \frac{\tan^2 x\cdot\sec^2 x}{1-\tan^6 x}dx$

150) Find the value of $\int \sin x\cdot\log\cos x dx$

151) Find $\int \sqrt{3-2x-x^2}dx$.

152) Find $\int \frac{3-5\sin x}{\cos^2 x}dx$

153) Find $\int e^x \frac{\sqrt{1+\sin 2x}}{1+\cos 2x}dx$

154) Find $\int \frac{dx}{x^2+4x+8}$

155) Find $\int \frac{dx}{5-8x-x^2}$

156) Find $\int \frac{2x+1}{(x+1)^2(x-1)}dx$

157) Find $\int \frac{e^x}{\sqrt{e^{2x}-4e^x-5}}dx$

158) Find $\int x^2\log\left(x^2+1\right)dx$

159) Find $\int \frac{1}{\sqrt{x}(\sqrt{x}+1)(\sqrt{x}+2)}dx$

160) Find $\int \frac{1}{\cos(x-a)\cos(x-b)}dx$

161) Find $\int \frac{2}{(1-x)(1+x^2)}dx$

162) Find $\int \frac{e^x}{\sqrt{5-4e^x-e^{2x}}}dx$

163) Find $\int \frac{x^2+x+1}{(x+1)^2(x+2)}dx$

164) Find $\int \frac{dx}{\sqrt{3-2x-x^2}}$

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

166) Find $\int \frac{x+1}{(x^2+1)x}dx$

167) Evaluate $\int_0^{\pi} \frac{e^{\cos x}}{e^{\cos x}+e^{-\cos x}}dx$

168) Evaluate $\int_0^{\pi/2} e^x\sin x dx$

169) Evaluate $\int_{1/3}^1 \frac{\left(x-x^3\right)^{1/3}}{x^4}dx$

170) Evaluate $\int_1^3 \{|(x-1)|+|(x-2)|\}dx$

171) Evaluate $\int_{\pi/4}^{\pi/2} e^{2x}\left(\frac{1-\sin 2x}{1-\cos 2x}\right)dx$

172) Evaluate $\int_1^4 \frac{1}{\sqrt{2x+1}-\sqrt{2x-1}}dx$

173) Evaluate $\int_0^{\pi/4} \log(1+\tan x)dx$

174) Evaluate $\int_1^3 \frac{\sqrt{4-x}}{\sqrt{x}+\sqrt{4-x}}dx$

175) Evaluate $\int_0^{2\pi} \frac{1}{1+e^{\sin x}} dx$

176) Evaluate $\int_0^{\pi/2} 2 \sin x \cos x \tan^{-1}(\sin x) dx$

177) Evaluate $\int_{\pi/6}^{\pi/3} \frac{dx}{1+\sqrt{\tan x}}$

178) Evaluate $\int_{-1}^{2} \left| x^3 - x \right| dx$

179) Evaluate $\int_{-1}^{2} \left| x^3 - 3x^2 + 2x \right| dx$

180) Evaluate $\int_{-2}^{2} \frac{x^2}{1+5^x} dx$

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