

$$\begin{aligned}
1033. & \int (x^7 + 7x - 7) dx. \\
1034. & \int (2x^3 - 5\sqrt{x^2} + \frac{3}{4x^5} - 1) dx. \\
1035. & \int \frac{(x-2)^2}{x} dx. \\
1036. & \int \frac{1 - \sin^2 x}{\sin^2 x} dx. \\
1037. & \int \frac{3 - 2 \sin^2 x}{\sin^2 x} dx. \\
1038. & \int \frac{x^4 + x^2 + 1}{x^2 + 1} dx. \\
1039. & \int \frac{\sqrt{x^6 + x^5 + 2}}{x^3} dx. \\
1040. & \int \frac{x^2 dx}{1 + x^2}.
\end{aligned}$$

Integreerimine asendusvõttega

$$1041. \int \frac{dx}{\sqrt{x-x^2}}, \quad x = \sin^2 z.$$

$$1042. \int \frac{dx}{x\sqrt{x-x^2}}, \quad x = \sin^2 z.$$

$$1043. \int \frac{dx}{x\sqrt{x^2-1}}, \quad x = \frac{1}{t}.$$

$$1044. \int \frac{dx}{x^2\sqrt{a^2-x^2}}, \quad x = \sin t.$$

$$1045. \int \frac{dx}{x\sqrt{x^2-1}}, \quad u = \sqrt{x^3-1}.$$

$$1046. \int \frac{dx}{2\sqrt{x+1}}, \quad u = 2\sqrt{x+1}.$$

$$1047. \int \frac{x}{\sqrt{1+x^2}} dx, \quad u = \sqrt{1+x^2}.$$

$$1048. \int \frac{2 + \ln \tan x}{\sin x \cos x} dx, \quad u = 2 + \ln \tan x.$$

Ülesandeis 1049—1052 avaldada antud integraal valemil

$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C \text{ abit:}$$

$$1049. \int \frac{6x^3 - 3x^2 - x + 2}{3x^4 - 2x^3 - x^2 + 4x - 5} dx.$$

$$1050. \int \frac{e^{3x}}{5 - e^{3x}} dx. \quad 1051. \int \frac{dx}{1 + e^x}.$$

$$1052. \int \tan x dx.$$

$$1053. \int \frac{\arcsin x}{\sqrt{1-x^2}} dx. \quad 1055. \int \frac{\tan x}{\cos^2 x} dx.$$

$$1054. \int \frac{5 \arctan x}{1+x^2} dx. \quad 1056. \int (2\sqrt{x} + x) \left(\frac{1}{\sqrt{x}} + 1 \right) dx.$$

Ülesandeis 1057—1064 on antud integraal kujul

$$\int f[g(x)] g'(x) dx,$$

mille avaldamiseks tuleb kasutada asendust $u = g(x)$:

$$\begin{aligned}
1057. & \int \frac{t^2 dt}{(1+2t)^2}. \\
1058. & \int \frac{dx}{x\sqrt{1-\ln^2 x}}. \\
1059. & \int x\sqrt{x^2+5} dx. \\
1060. & \int \frac{2x^4}{\cos^2 x^5} dx. \\
1061. & \int \frac{4}{\sqrt{1-\arctan x}} \frac{dx}{1+x^2}. \\
1062. & \int \frac{x^3 dx}{\sqrt{3-x^4}}. \\
1063. & \int \frac{\sqrt{\tan x - 3}}{\cos^2 x} dx. \\
1064. & \int \frac{\cos x}{\sin^7 x} dx.
\end{aligned}$$

Ülesandeis 1065—1072 avaldada antud integraal valemil (17) abit:

$$1065. \int (3x-7)^{15} dx.$$

$$1066. \int \frac{dx}{\sqrt{2-3x}}.$$

$$\text{Avaldada muutuja vahetusega:} \quad 1067. \int e^{ax+b} dx.$$

$$1068. \int \frac{dx}{\cos^2(3x-2)}.$$

$$1069. \int \frac{dx}{1+4x^2}.$$

$$1070. \int \frac{dx}{(1+x^2)(\arctan x - 1)}.$$

$$1071. \int \frac{dx}{x\sqrt{(\ln x + 2)^2}}.$$

$$1072. \int \frac{dx}{\sqrt{6x-x^2-8}}.$$

$$1073. \int \frac{\arctan^2 x - 3}{1+x^2} dx.$$

$$1074. \int \frac{dx}{\sqrt{1-x^2}(5+\arcsin x)}.$$

$$1075. \int (2x-5) \sin x dx. \quad 1076. \int \frac{\ln x}{x^2} dx.$$

$$1077. \int (x + \sin x) \cos x dx. \quad 1078. \int e^x \sin x dx \text{ ja } \int e^x \cos x dx.$$

$$1079. \int x e^{-x} dx. \quad 1080. \int x^2 \ln x dx.$$

$$1081. \int \frac{x dx}{\cos^2 x}.$$

$$1082. \int \arcsin x dx. \quad 1083. \int \arctan x dx.$$

$$1084. \int x^n \ln x dx, \quad n \neq -1. \quad 1085. \int x^3 e^x dx.$$

$$1086. \int \frac{dx}{x^3 - 3x^2 - 10x}.$$

$$1087. \int \frac{x^3 + 2}{x(x^2 - 1)^2} dx.$$

$$1088. \int \frac{11x + 16}{(x-1)(x-2)^2} dx.$$

$$1089. \int \frac{x^2 - 2}{(x-1)^2(x+2)^2} dx.$$

$$1090. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1091. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1092. \int \frac{x^3-6x^2+3x-9}{(x+3)^2(x+4)^2} dx.$$

$$1093. \int \frac{x^5+x^5-x^4-x^3+4x}{(x^2-1)(x+1)} dx.$$

$$1094. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1095. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1096. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1097. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1098. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1099. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1100. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1101. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1102. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1103. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1104. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1105. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1106. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1107. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1108. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1109. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1110. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1111. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

$$1112. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

Ratsionaalsete funktsioonide integreerimine

$$1113. \int \frac{x^5-2x^4+3}{x^3-3x^2-10x} dx.$$

$$1114. \int \frac{x^4+x^2+2}{x^3-7x+6} dx.$$

$$1115. \int \frac{x^4-x^2+2x}{x^3-1} dx.$$

$$1116. \int \frac{x^4+1}{x^3-x} dx.$$

$$1117. \int \frac{x^3+x}{(x^2+2x-3)(x^2+4x+4)} dx.$$

$$1118. \int \frac{x^3-6x^2+3x-9}{(x+3)^2(x+4)^2} dx.$$

$$1119. \int \frac{x^5+x^5-x^4-x^3+4x}{(x^2-1)(x+1)} dx.$$

$$1120. \int \frac{x^3-2}{(x-1)^2(x+2)^2} dx.$$

$$1121. \int \frac{3x-2}{x^3+2x^2-x-2} dx.$$

$$1122. \int \frac{2x^3-7x^2+9x}{(x^2-3x+2)(x^2-x-2)} dx.$$

Trigonomeetriliste funktsioonide integreerimine

$$1145. \text{ Avaldada } \int \cos^2 x dx, \text{ kasutades teisendust } \cos^2 x = \frac{1 + \cos 2x}{2}.$$

$$1146. \text{ Avaldada } \int \sin^2 x dx, \text{ kasutades teisendust } \sin^2 x = \frac{1 - \cos 2x}{2}.$$

$$1147. \text{ Avaldada } \int \cos^4 x dx, \text{ kasutades teisendust } \cos^4 x = \frac{1}{4}(1 + \cos 2x)^2.$$

$$1148. \text{ Avaldada } \int \sin^3 x dx, \text{ kasutades teisendust } \sin^3 x = (1 - \cos^2 x) \sin x.$$

$$1149. \text{ Avaldada } \int \sin^5 x dx, \text{ kasutades teisendust } \sin^5 x = (1 - \cos^2 x)^2 \sin x.$$

$$1150. \text{ Avaldada } \int \frac{dx}{\sin x}, \text{ kasutades teisendust } \sin x = 2 \sin \frac{x}{2} \cos \frac{x}{2} = 2 \tan \frac{x}{2} \cos^2 \frac{x}{2}.$$