Варіанти завдань до контрольної лабораторної роботи №1
2020/21 н.р., перший семестр

1) $\cos\frac{13}{49} + 5\pi - 57e \cdot \frac{12}{(x-14)(x+5)} - 15\arctg(x+8) - \frac{9+\sqrt{x+3}}{x-10}$

2) $\sin\frac{12}{70} + \frac{6e}{46\pi} \cdot \frac{6}{(x-13)(x-7)} + 11\cos(x-4) + \log_6(x-8)$

3) $\sin\frac{23}{62} + 7\pi + 59e \cdot \frac{9}{(x-4)(x+15)} - 14\sin(x-7) + \sqrt{x-11}$

4) $\cos\frac{29}{63} + \frac{21\pi}{69e} \cdot \frac{12}{(x+10)(x-6)} - 3\arcsin(x+13) + \frac{5}{x-5}$

5) $\cos\frac{11}{54} - \frac{9e}{68\pi} \cdot \frac{14}{(x+8)(x-4)} + 5\arccos(x-6) + \frac{1}{\sqrt{x+11}}$

6) $\sin\frac{14}{67} - 28\pi - 65e \cdot \frac{7}{(x+15)(x-12)} + 3\sin(x+9) - \frac{10}{x+13}$

7) $\cos\frac{26}{51} - 4\pi + 61e \cdot \frac{10}{(x-15)(x-14)} + 11\arcctg(x-8) + \sqrt{x+10}$

8) $\cos\frac{3}{52} - \frac{16\pi}{47e} \cdot \frac{7}{(x-3)(x+5)} + 6\sin(x-9) + \frac{12-\sqrt{x+4}}{x-13}$

9) $\sin\frac{30}{50} + \frac{27e}{64\pi} \cdot \frac{3}{(x-7)(x-8)} + 14\arccos(x-5) + \frac{1}{\sqrt{x+15}}$

10) $\sin\frac{2}{58} - \frac{25\pi}{55e} \cdot \frac{4}{(x+6)(x-11)} - 13\cos(x+12) + \log_{12}(x-9)$

11) $\cos\frac{19}{60} + \frac{29e}{66\pi} \cdot \frac{12}{(x-4)(x+9)} - 4\sin(x+8) + \frac{6-\sqrt{x+7}}{x-5}$

12) $\cos\frac{8}{56} - 19\pi + 60e \cdot \frac{6}{(x+4)(x-3)} + 13\cos(x-15) - \frac{1}{\sqrt{x+10}}$

13) $\sin\frac{18}{66} - \frac{22e}{48\pi} \cdot \frac{11}{(x+12)(x-10)} + 9\arctg(x-5) + \frac{6-\sqrt{x+11}}{x-3}$

14) $\sin\frac{17}{69} + 10\pi + 49e \cdot \frac{7}{(x-14)(x-12)} + 13\sin(x+4) - \frac{8}{x-15}$

15) $\cos\frac{24}{50} + 25\pi - 59e \cdot \frac{8}{(x+12)(x+15)} - 3\sin(x-4) + \log_3(x+9)$

16) $\cos\frac{11}{47} - \frac{23\pi}{51e} \cdot \frac{6}{(x+13)(x-7)} - 8\arcctg(x+5) - \frac{4}{x+10}$

17) $\cos\frac{29}{45} + 28\pi - 57e \cdot \frac{11}{(x-14)(x+4)} - 7\sin(x+6) + \frac{10-\sqrt{x+5}}{x-14}$

18) $\sin\frac{19}{56} - 10\pi + 58e \cdot \frac{9}{(x-12)(x+8)} - 3\arccos(x+11) - \log_{14}(x+13)$

19) $\cos\frac{14}{54} - \frac{30e}{70\pi} \cdot \frac{15}{(x+8)(x-11)} + 12\arcctg(x-10) + \frac{1}{\sqrt{x-5}}$

20) $\sin\frac{26}{66} + \frac{21\pi}{53e} \cdot \frac{3}{(x+6)(x-14)} + 15\cos(x-4) + \sqrt{x-13}$

21) $\cos\frac{17}{68} + 7\pi - 62e \cdot \frac{7}{(x-9)(x+4)} + 6\arctg(x-5) - \log_{13}(x+7)$

22) $\sin\frac{16}{65} - 27\pi + 63e \cdot \frac{11}{(x-10)(x+12)} + 15\cos(x-13) + \sqrt{x-9}$

23) $\sin\frac{9}{48} - \frac{8e}{61\pi} \cdot \frac{14}{(x+3)(x-8)} + 14\cos(x+15) - \frac{1}{\sqrt{x-4}}$

24) $\sin\frac{20}{60} + \frac{18\pi}{46e} \cdot \frac{11}{(x-5)(x+7)} - 13\arcsin(x+6) + \frac{11}{x-12}$

25) $\sin\frac{5}{67} + 12\pi - 55e \cdot \frac{3}{(x+8)(x-10)} + 9\sin(x-4) - \frac{13+\sqrt{x-8}}{x+12}$

26) $\cos\frac{13}{52} - \frac{3e}{64\pi} \cdot \frac{15}{(x+10)(x-6)} + 3\arcsin(x+9) - \frac{1}{\sqrt{x+14}}$

27) $\cos\frac{2}{54} - 15\pi + 67e \cdot \frac{11}{(x-7)(x-5)} + 10\cos(x-8) + \frac{9}{x-12}$

28) $\sin\frac{22}{50} + \frac{24\pi}{48e} \cdot \frac{6}{(x+11)(x-14)} - 13\arcctg(x+4) + \log_7(x-15)$

29) $\cos\frac{16}{58} + \frac{24\pi}{63e} \cdot \frac{9}{(x-7)(x+15)} - 6\arctg(x+11) - \log_{10}(x-5)$

30) $\sin\frac{20}{70} - \frac{19\pi}{55e} \cdot \frac{7}{(x+11)(x-5)} + 14\sin(x+10) - \frac{15-\sqrt{x+12}}{x-9}$

31) $\cos\frac{2}{46} + \frac{13e}{51\pi} \cdot \frac{13}{(x-8)(x+3)} - 6\cos(x+12) + \log_{15}(x-14)$

32) $\sin\frac{23}{56} - 22\pi + 53e \cdot \frac{7}{(x+15)(x-8)} - 3\arctg(x+5) - \frac{4+\sqrt{x+10}}{x-13}$

33) $\quad \sin\frac{28}{49} + \frac{5\pi}{58e} \cdot \frac{11}{(x-9)(x+4)} - 3\arctg(x-12) + \frac{7}{x-14}$

34) $\quad \cos\frac{15}{68} + \frac{9e}{62\pi} \cdot \frac{9}{(x+7)(x-5)} - 13\cos(x+11) - \frac{1}{\sqrt{x+10}}$

35) $\quad \sin\frac{14}{45} - 29\pi + 69e \cdot \frac{6}{(x-8)(x+15)} + 14\arcctg(x-4) + \sqrt{x-8}$

36) $\quad \sin\frac{8}{65} + 16\pi - 47e \cdot \frac{7}{(x-5)(x+11)} - 6\cos(x+15) + \frac{11}{x-12}$

37) $\quad \sin\frac{18}{64} + 11\pi - 61e \cdot \frac{3}{(x+10)(x-9)} - 13\arcsin(x+6) + \frac{4-\sqrt{x+13}}{x-3}$

38) $\quad \cos\frac{17}{63} + \frac{30e}{57\pi} \cdot \frac{14}{(x-7)(x+8)} - 9\cos(x-15) + \sqrt{x-12}$

39) $\quad \sin\frac{10}{59} + 25\pi + 66e \cdot \frac{5}{(x-10)(x+11)} - 13\sin(x+7) - \log_{10}(x-5)$

40) $\quad \cos\frac{5}{46} + 4\pi - 64e \cdot \frac{11}{(x+13)(x-10)} - 14\sin(x+8) + \sqrt{x-3}$

41) $\quad \sin\frac{25}{53} - 21\pi + 55e \cdot \frac{5}{(x+13)(x-15)} - 4\arcsin(x+6) - \frac{12}{x+10}$

42) $\quad \cos\frac{12}{48} - 3\pi + 66e \cdot \frac{7}{(x-10)(x+13)} + 6\cos(x-4) - \frac{9}{x+14}$

43) $\quad \sin\frac{26}{49} + \frac{6e}{46\pi} \cdot \frac{5}{(x-15)(x+8)} - 11\sin(x+3) - \frac{8+\sqrt{x-6}}{x-7}$

44) $\quad \cos\frac{7}{57} + \frac{13\pi}{60e} \cdot \frac{4}{(x-3)(x+9)} + 15\arcctg(x-12) - \sqrt{x+5}$

45) $\quad \cos\frac{3}{67} + \frac{10e}{50\pi} \cdot \frac{13}{(x-11)(x-14)} + 10\arctg(x+12) - \log_{12}(x+5)$

46) $\quad \sin\frac{8}{54} - \frac{23\pi}{47e} \cdot \frac{6}{(x-13)(x+3)} + 7\cos(x-15) - \log_{5}(x+10)$

47) $\quad \cos\frac{25}{65} + 18\pi - 55e \cdot \frac{14}{(x+4)(x-9)} - 11\sin(x+8) + \frac{15}{x-8}$

48) $\quad \sin\frac{14}{52} - 12\pi + 51e \cdot \frac{7}{(x+4)(x-13)} + 6\arcsin(x-5) + \frac{3-\sqrt{x+10}}{x-12}$

49) $\quad \sin\frac{22}{70} + 29\pi - 69e \cdot \frac{14}{(x-9)(x+11)} + 15\cos(x-11) + \frac{1}{\sqrt{x-12}}$

50) $\quad \sin\frac{27}{62} - \frac{11\pi}{68e} \cdot \frac{3}{(x+7)(x-10)} + 6\arctg(x-15) + \sqrt{x+8}$

51) $\quad \cos\frac{5}{64} - 26\pi + 45e \cdot \frac{9}{(x-4)(x+14)} - 5\cos(x+13) - \sqrt{x+3}$

52) $\quad \cos\frac{20}{54} + 9\pi - 48e \cdot \frac{10}{(x+11)(x-15)} - 14\cos(x+6) + \frac{1}{\sqrt{x-13}}$

53) $\quad \sin\frac{9}{67} + \frac{19e}{70\pi} \cdot \frac{4}{(x-10)(x+7)} - 5\cos(x+14) - \frac{9+\sqrt{x-13}}{x+8}$

54) $\quad \cos\frac{17}{69} - \frac{21\pi}{63e} \cdot \frac{9}{(x+3)(x-10)} - 11\arcctg(x+15) - \frac{14}{x+5}$

55) $\quad \cos\frac{7}{66} - \frac{2e}{63\pi} \cdot \frac{7}{(x-4)(x+3)} + 12\arcctg(x-8) + \sqrt{x-9}$

56) $\quad \sin\frac{4}{47} - 30\pi + 68e \cdot \frac{6}{(x+10)(x-15)} - 13\sin(x+12) - \sqrt{x+7}$

57) $\quad \sin\frac{15}{56} - \frac{6\pi}{45e} \cdot \frac{4}{(x+3)(x-14)} + 5\cos(x+11) - \frac{8-\sqrt{x+6}}{x-11}$

58) $\quad \sin\frac{24}{66} + 28\pi + 52e \cdot \frac{4}{(x-12)(x+7)} - 10\arctg(x+13) - \frac{1}{\sqrt{x+5}}$

59) $\quad \cos\frac{10}{60} - 11\pi - 53e \cdot \frac{3}{(x+9)(x+8)} - 14\cos(x-15) + \log_{3}(x+9)$

60) $\quad \sin\frac{26}{46} - \frac{30e}{51\pi} \cdot \frac{8}{(x+15)(x-5)} + 11\arccos(x-10) - \frac{13}{x+4}$

61) $\quad \sin\frac{29}{57} - 5\pi + 64e \cdot \frac{3}{(x+13)(x-6)} + 7\arcsin(x-14) + \frac{12-\sqrt{x+14}}{x-11}$

62) $\quad \cos\frac{25}{49} + \frac{18e}{65\pi} \cdot \frac{3}{(x-4)(x+10)} - 13\cos(x+9) - \log_{8}(x+15)$

63) $\quad \sin\frac{9}{61} - 2\pi - 55e \cdot \frac{5}{(x+7)(x-12)} + 8\arcctg(x-6) + \frac{4}{x+10}$

64) $\quad \cos\frac{22}{54} - \frac{7\pi}{50e} \cdot \frac{6}{(x-4)(x+12)} - 5\sin(x+11) - \sqrt{x+3}$

65) $\quad \sin\frac{4}{58} - 23\pi + 59e \cdot \frac{13}{(x-14)(x+8)} - 9\cos(x+15) + \frac{1}{\sqrt{x-7}}$

66) $\quad \sin\frac{17}{53} - 27\pi + 46e \cdot \frac{3}{(x+8)(x-7)} + 9\arccos(x-11) + \frac{8}{x-5}$

67) $\cos \frac{8}{66} + \frac{12e}{69\pi} \cdot \frac{6}{(x-15)(x+10)} - 12 \arctan (x + 13) - \log_6 (x + 4)$

68) $\cos \frac{20}{49} - \frac{24\pi}{52e} \cdot \frac{14}{(x+12)(x-5)} - 8 \sin (x + 11) + \frac{13-\sqrt{x-4}}{x+6}$

69) $\sin \frac{15}{59} - \frac{21\pi}{60e} \cdot \frac{3}{(x+15)(x+10)} - 14 \operatorname{arcctg} (x + 7) - \frac{1}{\sqrt{x+9}}$

70) $\cos \frac{3}{45} - 16\pi + 55e \cdot \frac{8}{(x-15)(x+12)} - 4 \sin (x - 6) + \sqrt{x - 10}$

71) $\sin \frac{19}{62} + 13\pi + 63e \cdot \frac{3}{(x-14)(x+9)} - 13 \arcsin (x - 7) + \frac{10}{x+11}$

72) $\cos \frac{6}{47} - \frac{14e}{68\pi} \cdot \frac{5}{(x-11)(x+12)} - 5 \cos (x + 9) - \sqrt{x + 6}$

73) $\sin \frac{28}{54} - 4\pi + 70e \cdot \frac{10}{(x-14)(x+4)} - 13 \arctan (x + 15) + \log_{11} (x - 7)$

74) $\cos \frac{26}{48} + 13\pi - 64e \cdot \frac{3}{(x+8)(x-15)} - 7 \cos (x + 14) - \frac{1}{\sqrt{x+3}}$

75) $\sin \frac{2}{57} - \frac{15\pi}{65e} \cdot \frac{8}{(x+9)(x+4)} - 6 \arcsin (x - 10) + \frac{13-\sqrt{x+11}}{x-5}$

76) $\sin \frac{10}{61} + \frac{24e}{51\pi} \cdot \frac{12}{(x+10)(x-13)} + 3 \cos (x - 6) + \frac{14}{x-15}$

77) $\cos \frac{5}{56} + \frac{23\pi}{50e} \cdot \frac{14}{(x-5)(x+11)} - 4 \sin (x - 8) + \frac{1}{\sqrt{x-9}}$

78) $\sin \frac{26}{60} - \frac{11\pi}{50e} \cdot \frac{8}{(x+9)(x-7)} + 15 \sin (x - 14) + \log_8 (x + 5)$

79) $\sin \frac{14}{55} - 27\pi + 50e \cdot \frac{7}{(x-6)(x+10)} - 12 \cos (x + 8) + \sqrt{x - 14}$

80) $\cos \frac{11}{54} - 6\pi + 51e \cdot \frac{15}{(x-10)(x+3)} + 13 \operatorname{arcctg} (x - 11) + \log_9 (x - 8)$

81) $\cos \frac{16}{67} + 25\pi - 69e \cdot \frac{9}{(x+7)(x-14)} - 4 \sin (x + 6) - \sqrt{x + 15}$

82) $\sin \frac{20}{61} + \frac{7\pi}{63e} \cdot \frac{5}{(x-12)(x+9)} - 3 \arctan (x + 11) - \frac{4}{x+8}$

83) $\cos \frac{18}{64} - \frac{30e}{65\pi} \cdot \frac{15}{(x+4)(x-5)} - 6 \sin (x + 12) - \frac{13+\sqrt{x-14}}{x+10}$

84) $\cos \frac{22}{47} - 9\pi + 66e \cdot \frac{7}{(x-8)(x+3)} + 4 \arcsin (x - 10) - \frac{1}{\sqrt{x+9}}$

85) $\cos \frac{19}{70} - \frac{29\pi}{62e} \cdot \frac{13}{(x+6)(x-7)} + 5 \operatorname{arcctg} (x - 12) + \log_3 (x - 15)$

86) $\sin \frac{3}{52} + 8\pi - 45e \cdot \frac{14}{(x+11)(x+8)} - 3 \cos (x - 4) + \sqrt{x - 15}$

87) $\sin \frac{21}{68} + 12\pi - 56e \cdot \frac{9}{(x+6)(x+14)} - 7 \sin (x - 5) + \log_{12} (x - 10)$

88) $\cos \frac{14}{57} + \frac{22e}{46\pi} \cdot \frac{11}{(x-12)(x+13)} + 14 \arccos (x - 10) + \frac{1}{\sqrt{x-5}}$

89) $\cos \frac{4}{49} + 10\pi - 48e \cdot \frac{6}{(x-11)(x+3)} + 4 \arctan (x - 12) + \frac{9-\sqrt{x-15}}{x+13}$

90) $\sin \frac{11}{59} - \frac{24e}{53\pi} \cdot \frac{7}{(x+8)(x+3)} - 5 \sin (x + 15) - \frac{5}{x+4}$

91) $\cos \frac{5}{60} - \frac{16\pi}{58e} \cdot \frac{6}{(x-13)(x+7)} - 8 \operatorname{arcctg} (x + 12) - \log_7 (x + 10)$

92) $\sin \frac{23}{50} + 8\pi - 57e \cdot \frac{14}{(x-9)(x+11)} + 4 \cos (x - 8) + \frac{13}{x-3}$

93) $\cos \frac{2}{69} + \frac{27\pi}{66e} \cdot \frac{13}{(x-7)(x-12)} + 9 \arcsin (x - 14) + \frac{1}{\sqrt{x+15}}$

94) $\sin \frac{6}{53} - 29\pi - 48e \cdot \frac{10}{(x+6)(x+11)} - 5 \sin (x + 6) - \frac{11+\sqrt{x-10}}{x+9}$

95) $\cos \frac{21}{59} - \frac{15e}{49\pi} \cdot \frac{13}{(x+8)(x-14)} + 4 \arccos (x - 12) + \sqrt{x - 7}$

96) $\cos \frac{20}{70} + 7\pi - 47e \cdot \frac{15}{(x-3)(x+5)} - 7 \sin (x + 15) - \log_{15} (x + 9)$

97) $\sin \frac{12}{55} + \frac{17\pi}{46e} \cdot \frac{12}{(x-11)(x-10)} + 14 \cos (x - 5) + \frac{6-\sqrt{x+4}}{x-8}$

98) $\cos \frac{25}{63} + \frac{18e}{60\pi} \cdot \frac{13}{(x-3)(x+10)} - 8 \operatorname{arcctg} (x + 5) + \frac{1}{\sqrt{x-6}}$

99) $\sin \frac{30}{58} + 13\pi - 67e \cdot \frac{3}{(x+14)(x-7)} - 12 \sin (x + 4) + \sqrt{x - 15}$

100) $\cos \frac{19}{52} - 26\pi + 56e \cdot \frac{11}{(x-9)(x+13)} - 10 \arccos (x + 6) - \frac{11}{x+7}$

101) $\cos \frac{9}{51} - 28\pi + 68e \cdot \frac{3}{(x+14)(x-12)} - 5\sin(x+9) + \log_7(x-15)$

102) $\sin \frac{3}{64} - \frac{21\pi}{65e} \cdot \frac{13}{(x+4)(x-8)} + 11\arcsin(x-11) + \sqrt{x-10}$

103) $\cos \frac{22}{61} + 10\pi + 45e \cdot \frac{9}{(x-5)(x+3)} - 15\operatorname{arctg}(x-7) + \frac{12}{x+4}$

104) $\cos \frac{2}{54} - \frac{9e}{62\pi} \cdot \frac{13}{(x+12)(x-14)} + 8\sin(x-6) + \frac{6-\sqrt{x-9}}{x+12}$

105) $\sin \frac{15}{62} + 13\pi - 54e \cdot \frac{10}{(x-11)(x+13)} + 5\cos(x-4) - \frac{1}{\sqrt{x+15}}$

106) $\sin \frac{17}{51} + 29\pi - 45e \cdot \frac{8}{(x-14)(x+7)} + 3\operatorname{arctg}(x-4) + \frac{6}{x-14}$

107) $\cos \frac{26}{58} - \frac{20e}{64\pi} \cdot \frac{3}{(x+13)(x+9)} - 7\sin(x+10) - \frac{6-\sqrt{x+5}}{x+11}$

108) $\sin \frac{19}{56} - \frac{11\pi}{53e} \cdot \frac{12}{(x+8)(x-15)} - 6\arcsin(x+9) - \log_{13}(x+11)$

109) $\cos \frac{8}{61} + \frac{24\pi}{55e} \cdot \frac{14}{(x-13)(x-3)} + 15\cos(x+4) - \frac{1}{\sqrt{x-5}}$

110) $\cos \frac{28}{60} + 5\pi + 49e \cdot \frac{7}{(x-8)(x-12)} + 10\operatorname{arcctg}(x-4) + \sqrt{x-7}$

111) $\sin \frac{13}{49} - \frac{27e}{69\pi} \cdot \frac{4}{(x-11)(x+6)} + 3\cos(x-10) - \frac{14}{x+5}$

112) $\sin \frac{6}{47} + \frac{16e}{52\pi} \cdot \frac{5}{(x-3)(x+10)} - 12\sin(x+11) + \frac{1}{\sqrt{x-3}}$

113) $\sin \frac{25}{48} + \frac{7e}{65\pi} \cdot \frac{4}{(x-6)(x-10)} + 11\cos(x+15) - \frac{14}{x-13}$

114) $\cos \frac{27}{63} + \frac{18\pi}{50e} \cdot \frac{5}{(x-8)(x+12)} + 7\operatorname{arctg}(x-14) - \log_{15}(x+9)$

115) $\sin \frac{14}{46} + 23\pi - 66e \cdot \frac{15}{(x+12)(x-14)} - 8\cos(x+5) - \frac{13+\sqrt{x+4}}{x-3}$

116) $\sin \frac{30}{59} + 4\pi - 57e \cdot \frac{9}{(x+10)(x-11)} + 6\arcsin(x-7) - \frac{1}{\sqrt{x+8}}$

117) $\sin \frac{19}{68} + 8\pi - 67e \cdot \frac{15}{(x+3)(x-4)} + 13\operatorname{arcctg}(x-9) - \sqrt{x+14}$

118) $\cos \frac{11}{67} - 17\pi + 61e \cdot \frac{10}{(x+7)(x-12)} - 6\sin(x+5) + \frac{11-\sqrt{x+6}}{x-11}$

119) $\cos \frac{20}{69} + \frac{21e}{57\pi} \cdot \frac{5}{(x-3)(x+4)} - 12\cos(x-7) + \frac{4}{x-14}$

120) $\cos \frac{14}{62} + \frac{8\pi}{57e} \cdot \frac{9}{(x-12)(x-3)} + 10\operatorname{arcctg}(x+11) - \frac{14+\sqrt{x-13}}{x+12}$

121) $\cos \frac{18}{59} - 28\pi + 49e \cdot \frac{14}{(x-8)(x+12)} - 10\arccos(x+11) - \log_3(x+13)$

122) $\cos \frac{15}{55} - \frac{2\pi}{47e} \cdot \frac{6}{(x+7)(x-15)} + 4\sin(x-5) + \frac{1}{\sqrt{x-3}}$

123) $\sin \frac{26}{51} + 6\pi - 63e \cdot \frac{13}{(x+11)(x-12)} + 10\sin(x-5) + \frac{9}{x-4}$

124) $\sin \frac{13}{46} + \frac{12e}{45\pi} \cdot \frac{15}{(x-9)(x+6)} + 8\arcsin(x-14) + \sqrt{x-3}$

125) $\cos \frac{30}{70} + \frac{25\pi}{60e} \cdot \frac{7}{(x-9)(x-6)} + 11\cos(x+14) - \frac{3+\sqrt{x-15}}{x-5}$

126) $\cos \frac{14}{48} + \frac{22e}{66\pi} \cdot \frac{12}{(x+10)(x-7)} + 8\operatorname{arcctg}(x-13) + \frac{1}{\sqrt{x-4}}$

127) $\sin \frac{4}{65} + 3\pi - 52e \cdot \frac{15}{(x-5)(x+7)} - 11\sin(x+4) - \frac{5}{x+10}$

128) $\cos \frac{27}{56} - 23\pi + 50e \cdot \frac{6}{(x+13)(x-12)} - 8\operatorname{arctg}(x+14) + \sqrt{x-9}$

129) $\sin \frac{9}{54} + \frac{10\pi}{58e} \cdot \frac{3}{(x-6)(x+13)} - 3\operatorname{arctg}(x+5) - \log_{10}(x+8)$

130) $\sin \frac{5}{68} - 24\pi - 64e \cdot \frac{7}{(x+10)(x-12)} + 15\cos(x+4) - \frac{11+\sqrt{x-9}}{x-14}$

131) $\cos \frac{16}{54} + \frac{6e}{51\pi} \cdot \frac{9}{(x-14)(x+7)} - 3\operatorname{arcctg}(x+5) - \frac{7}{x+6}$

132) $\cos \frac{16}{58} + 4\pi - 68e \cdot \frac{13}{(x-12)(x+11)} - 4\cos(x+8) + \frac{10-\sqrt{x-15}}{x+8}$

133) $\sin \frac{25}{53} + 7\pi - 67e \cdot \frac{11}{(x-7)(x+14)} + 4\arccos(x-10) + \log_{13}(x-5)$

134) $\sin \frac{3}{66} - \frac{20e}{50\pi} \cdot \frac{9}{(x+13)(x+15)} - 12\cos(x+6) - \sqrt{x+3}$

135) $\sin \frac{17}{56} - \frac{14\pi}{45e} \cdot \frac{7}{(x+14)(x-11)} + 12\cos(x-10) + \frac{1}{\sqrt{x-8}}$

136) $\sin \frac{22}{47} - 21\pi + 61e \cdot \frac{15}{(x-9)(x+6)} + 4\arcsin(x-13) - \frac{1}{\sqrt{x+5}}$

137) $\sin \frac{12}{49} - \frac{19e}{48\pi} \cdot \frac{3}{(x+4)(x+15)} - 10\operatorname{arcctg}(x-6) + \sqrt{x-7}$

138) $\cos \frac{18}{63} + 2\pi - 62e \cdot \frac{13}{(x+9)(x+8)} - 5\sin(x+3) - \log_{10}(x-14)$

139) $\cos \frac{9}{70} + 10\pi + 52e \cdot \frac{12}{(x-11)(x-15)} + 10\cos(x-3) + \frac{4-\sqrt{x+9}}{x+5}$

140) $\sin \frac{24}{60} - \frac{8\pi}{55e} \cdot \frac{6}{(x+12)(x-8)} - 13\operatorname{arctg}(x+11) - \frac{15}{x+7}$

141) $\cos \frac{28}{46} - 11\pi + 57e \cdot \frac{14}{(x+9)(x-5)} + 4\arcsin(x-15) + \log_4(x-11)$

142) $\sin \frac{15}{64} + \frac{27e}{59\pi} \cdot \frac{14}{(x-8)(x+6)} - 13\sin(x-7) + \frac{12}{x+10}$

143) $\cos \frac{13}{69} - \frac{30\pi}{65e} \cdot \frac{12}{(x-3)(x+14)} + 12\arccos(x-7) - \sqrt{x+4}$

144) $\cos \frac{23}{55} - 5\pi + 59e \cdot \frac{10}{(x-11)(x+15)} - 8\sin(x+3) + \frac{1}{\sqrt{x-5}}$

145) $\cos \frac{26}{62} + 29\pi - 54e \cdot \frac{13}{(x+9)(x-6)} + 14\operatorname{arctg}(x-11) - \frac{8+\sqrt{x-13}}{x+7}$

146) $\sin \frac{4}{61} + 14\pi - 67e \cdot \frac{10}{(x-15)(x+6)} - 4\cos(x+3) - \frac{5+\sqrt{x+9}}{x-12}$

147) $\sin \frac{22}{56} + \frac{21\pi}{48e} \cdot \frac{9}{(x-8)(x+12)} - 7\arcsin(x-15) + \log_9(x-11)$

148) $\cos \frac{27}{69} + \frac{24e}{50\pi} \cdot \frac{6}{(x-3)(x+14)} - 10\cos(x+13) + \sqrt{x-5}$

149) $\sin \frac{18}{68} - \frac{20e}{58\pi} \cdot \frac{4}{(x+8)(x-11)} + 5\operatorname{arcctg}(x+15) - \frac{3}{x-6}$

150) $\sin \frac{9}{45} + 15\pi + 57e \cdot \frac{14}{(x-9)(x+7)} - 10\sin(x-4) + \frac{1}{\sqrt{x+12}}$

151) $\cos \frac{17}{64} - \frac{10\pi}{63e} \cdot \frac{13}{(x+3)(x-9)} - 15\cos(x+12) + \log_6(x-8)$

152) $\sin \frac{30}{53} - 16\pi + 66e \cdot \frac{14}{(x-11)(x+13)} - 5\arccos(x+10) - \frac{11}{x+4}$

153) $\sin \frac{3}{52} + 28\pi - 67e \cdot \frac{9}{(x+15)(x-5)} - 7\operatorname{arctg}(x+6) + \frac{4-\sqrt{x-8}}{x+13}$

154) $\cos \frac{5}{47} + 2\pi - 52e \cdot \frac{5}{(x+15)(x+6)} - 12\sin(x-7) + \sqrt{x-4}$

155) $\sin \frac{7}{70} + 6\pi - 46e \cdot \frac{10}{(x+13)(x+9)} - 12\arccos(x-15) + \frac{1}{\sqrt{x-6}}$

156) $\cos \frac{19}{51} + \frac{29e}{65\pi} \cdot \frac{11}{(x+10)(x-7)} - 3\cos(x+5) + \log_5(x-14)$

157) $\sin \frac{25}{52} - \frac{26\pi}{51e} \cdot \frac{13}{(x+4)(x-8)} + 11\sin(x+7) - \sqrt{x-12}$

158) $\sin \frac{12}{55} + 3\pi + 62e \cdot \frac{15}{(x-8)(x+10)} - 5\operatorname{arctg}(x-13) + \frac{14}{x+6}$

159) $\cos \frac{28}{64} - \frac{8e}{45\pi} \cdot \frac{3}{(x+4)(x-14)} - 9\operatorname{arcctg}(x+4) - \frac{14+\sqrt{x+15}}{x-12}$

160) $\cos \frac{11}{56} + 22\pi - 59e \cdot \frac{13}{(x+3)(x-11)} + 9\sin(x-8) + \frac{1}{\sqrt{x-10}}$

161) $\cos \frac{15}{63} + \frac{20e}{47\pi} \cdot \frac{7}{(x-5)(x-6)} + 7\sin(x+13) - \frac{8}{x+10}$

162) $\cos \frac{25}{65} - \frac{9\pi}{49e} \cdot \frac{14}{(x+3)(x-6)} - 12\operatorname{arctg}(x+11) + \sqrt{x-15}$

163) $\sin \frac{27}{53} + 12\pi - 48e \cdot \frac{9}{(x+4)(x-5)} - 8\operatorname{arcctg}(x+13) - \log_{12}(x+9)$

164) $\sin \frac{23}{66} - 8\pi + 57e \cdot \frac{15}{(x+6)(x-14)} - 7\sin(x+3) - \frac{1}{\sqrt{x+4}}$

165) $\sin \frac{14}{46} + 18\pi - 68e \cdot \frac{11}{(x-7)(x+5)} - 3\sin(x+4) + \sqrt{x-13}$

166) $\cos \frac{6}{70} - 11\pi + 46e \cdot \frac{7}{(x+8)(x-10)} - 13\cos(x+14) + \frac{1}{\sqrt{x-5}}$

167) $\cos \frac{5}{69} + \frac{16e}{60\pi} \cdot \frac{11}{(x-4)(x+3)} - 9\arcsin(x-10) + \frac{13}{x+12}$

168) $\sin \frac{4}{61} - \frac{26\pi}{58e} \cdot \frac{3}{(x-4)(x+15)} + 5\sin(x-14) + \log_{10}(x-8)$

169) $\sin \frac{19}{50} + \frac{28\pi}{54e} \cdot \frac{6}{(x-9)(x+7)} - 11 \cos (x + 13) - \sqrt{x - 5}$

170) $\sin \frac{29}{63} + 24\pi + 57e \cdot \frac{3}{(x-7)(x+6)} - 15 \operatorname{arctg} (x - 10) + \frac{11-\sqrt{x+14}}{x-13}$

171) $\cos \frac{18}{55} + \frac{14e}{64\pi} \cdot \frac{12}{(x+9)(x-8)} - 4 \sin (x + 15) + \frac{9-\sqrt{x+3}}{x-10}$

172) $\cos \frac{7}{49} + 2\pi - 59e \cdot \frac{12}{(x-4)(x+6)} + 11 \arccos (x - 8) - \sqrt{x + 14}$

173) $\cos \frac{10}{70} - \frac{21\pi}{51e} \cdot \frac{7}{(x+5)(x-13)} + 14 \sin (x + 5) - \frac{4}{x-15}$

174) $\cos \frac{30}{68} + 3\pi - 58e \cdot \frac{12}{(x+4)(x+9)} - 8 \arcsin (x - 10) + \log_3 (x - 3)$

175) $\sin \frac{21}{54} + \frac{19e}{45\pi} \cdot \frac{7}{(x+11)(x-13)} - 6 \operatorname{arcctg} (x + 7) + \frac{1}{\sqrt{x-14}}$

176) $\sin \frac{23}{61} + 2\pi - 56e \cdot \frac{8}{(x+15)(x-4)} + 13 \cos (x - 11) - \log_9 (x + 6)$

177) $\cos \frac{3}{50} - \frac{5e}{52\pi} \cdot \frac{10}{(x+5)(x+9)} - 12 \operatorname{arcctg} (x + 3) - \sqrt{x + 7}$

178) $\sin \frac{18}{48} - 27\pi - 53e \cdot \frac{5}{(x+6)(x-11)} + 12 \sin (x - 3) + \frac{1}{\sqrt{x-14}}$

179) $\cos \frac{9}{62} + 29\pi + 46e \cdot \frac{13}{(x-4)(x+15)} - 8 \cos (x - 10) + \frac{9-\sqrt{x+8}}{x-7}$

180) $\cos \frac{26}{66} + \frac{11\pi}{60e} \cdot \frac{4}{(x+15)(x-9)} - 6 \arccos (x + 5) + \frac{15}{x-12}$

181) $\sin \frac{15}{67} + \frac{6\pi}{69e} \cdot \frac{11}{(x-10)(x+14)} - 3 \sin (x - 13) + \log_6 (x - 11)$

182) $\sin \frac{30}{47} + 10\pi + 65e \cdot \frac{7}{(x-8)(x+6)} - 15 \arcsin (x + 9) - \frac{7}{x+14}$

183) $\sin \frac{13}{47} - 17\pi - 65e \cdot \frac{13}{(x+3)(x+10)} - 12 \cos (x + 4) - \frac{5+\sqrt{x-15}}{x-4}$

184) $\cos \frac{4}{61} + \frac{24e}{70\pi} \cdot \frac{8}{(x+9)(x-13)} + 3 \operatorname{arctg} (x - 11) - \sqrt{x + 14}$

185) $\sin \frac{12}{64} + \frac{20e}{58\pi} \cdot \frac{7}{(x-12)(x+10)} - 5 \cos (x + 6) - \frac{1}{\sqrt{x+6}}$

186) $\sin \frac{28}{55} - 8\pi + 59e \cdot \frac{10}{(x-9)(x-11)} + 7 \arccos (x - 3) + \frac{1}{\sqrt{x+13}}$

187) $\cos \frac{22}{53} - \frac{16\pi}{56e} \cdot \frac{12}{(x-14)(x+5)} - 15 \cos (x + 4) + \log_5 (x - 8)$

188) $\cos \frac{7}{45} - 25\pi + 51e \cdot \frac{10}{(x+8)(x-6)} - 14 \arcsin (x + 15) + \frac{11}{x-12}$