

Gyakorló feladatok integrálszámításból  
– végeredmények –

1.  $-1/2 \cos(2x + 7) + c,$   
 $1/4 \sin(2x + 7) - 1/2 \cos(2x + 7)x + c,$   
 $\sin(\sqrt{2x + 7}) - \sqrt{2x + 7} \cos(\sqrt{2x + 7}) + c,$   
 $(3x + 4) \sin(\sqrt{2x + 7}) + (3 - x) \sqrt{2x + 7} \cos(\sqrt{2x + 7}) + c;$
2.  $-2/21 (6 - 7x)^{3/2} + c,$   
 $-\frac{2}{245} (6 - 7x)^{3/2} (7x + 4) + c,$   
 $-2/7 \sqrt{6 - 7x} + c,$   
 $1/7 \sqrt{7} \arcsin(\sqrt{7/6}x) + c,$   
 $-\frac{2}{147} \sqrt{6 - 7x} (12 + 7x) + c,$   
 $-1/7 \sqrt{6 - 7x^2} + c;$
3.  $-1/4 e^{3-4x} + c,$   
 $3 e^{\sqrt[3]{x}} (x^{2/3} - 2 \sqrt[3]{x} + 2) + c,$   
 $-1/16 e^{3-4x} (21 + 4x) + c,$   
 $1/4 \ln(e^{4x} + 9) + c,$   
 $1/2 e^{2x} - 9/2 \ln(e^{2x} + 9) + c;$
4.  $1/4 \ln(\sin(4x)) + c,$   
 $7/6 (7x + 17)^{6/7} + c,$   
 $1/6 (\ln(3x + 1))^2 + c,$   
 $1/12 (3x + 1)^2 (-1 + 2 \ln(3x + 1)) + c,$   
 $\left(\frac{1}{81} + 1/3 x^3\right) \ln(3x + 1) - 1/27 x - 1/9 x^3 + 1/18 x^2 + c;$
5.  $1/2 \operatorname{arctg}(1/2 x + 3/2) + c,$   
 $-1/4 \ln(x + 5) + 1/4 \ln(1 + x) + c,$   
 $\ln(x^2 + 8x + 25) - \arctan(1/3 x + 4/3) + c,$   
 $1/4 x^2 + 11/4 x + \frac{45}{8} \ln(2x + 5) + c,$   
 $2x^3 - 15x^2 + 238x - 1625 \ln(x + 7) + 12 \ln(x - 2) + c,$   
 $\frac{11}{13} \ln(x + 3) + \frac{14}{13} \ln(x^2 + 4) - 3/13 \operatorname{arctg}(1/2 x) + c,$   
 $\frac{11}{5} \ln(x + 3) + \frac{13}{10} \ln(x - 2) - 1/2 \ln(x + 2) + c,$   
 $1/2 (x + 2)^{-1} + \frac{11}{8} \ln(x + 2) + \frac{13}{8} \ln(x - 2) + c;$
6.  $1/2 (x + 3) \sqrt{x^2 + 6x + 16} + 7/2 \operatorname{arsh}\left(\frac{x+3}{\sqrt{7}}\right) + c,$   
 $1/2 (x + 3) \sqrt{x^2 + 6x - 16} - \frac{25}{2} \ln(x + 3 + \sqrt{x^2 + 6x - 16}) + c,$   
 $1/2 (x - 3) \sqrt{-x^2 + 6x - 16} + \frac{25}{2} \arcsin(1/5 x - 3/5) + c,$   
 $1/3 (x^2 - 16)^{3/2} + c,$   
 $\left(\frac{x^2}{3} + \frac{x}{2} - \frac{59}{6}\right) \sqrt{x^2 + 6x - 16} + \frac{75}{2} \ln(x + 3 + \sqrt{x^2 + 6x - 16}) + c.$