DELOVNI LIST 3- ***EKSPONENTNA FUNKCIJA***

1. V isti koordinatmni sistem nariši grafe funkcij:

   (a) $y = 4^x$ in $y = -4^x$ in $y = 4^{-x}$ in $y = -4^{-x}$

   (b) $y = 3^{x+1}$ in $y = 3^{x-1}$ in $y = -3^{x-1}$ in

   (c) $y = 5^{-x}$ in $y = 5^{-x+1}$ in $y = 5^{-x-1}$

2. S premiki in raztegi postopoma nariši grafe funkcij. Določi definicijsko območje, zalogo vrednosti, asimptoto in presečišči grafa s koordinatnima osema.

   (a) $y = -2^{x+1} - 2$

   (b) $y = 3^{x-1} + 1$

   (c) $y = -e^{x+2} - 1$

   (d) $y = \left(\frac{1}{2}\right)^{x-1} - 2$

   (e) $y = 3^{-x+1}$

   (f) $y = -\left(\frac{1}{4}\right)^{x+3} + 2$

   (g) $y = 2 \cdot 5^{x-2}$

   (h) $y = \frac{1}{2} \cdot 4^{x+1} - 1$

3. Določi eksponentno funkcijo, ki zadošča pogoju:

   (a) $f(2) = 4$ [R: $a = 2$]

   (b) $f(-1) = 3$ [R: $a = \frac{1}{3}$]

   (c) $f(3) = -3$ [R: $a = \emptyset$]

   (d) $f\left(\frac{1}{2}\right) = 4$ [R: $a = 16$]

   (e) $f\left(\frac{2}{3}\right) = 9$ [R: $a = 27$]

(f) $f\left(\frac{3}{2}\right) = \frac{27}{8}$ [R: $a = \frac{27}{8}$]

(g) $f\left(-\frac{5}{4}\right) = -\frac{1}{32}$ [R: $a = 16$]

(h) $f\left(\frac{1}{2}\right) = 8$ [R: $a = 64$]

(i) $f\left(\frac{4}{3}\right) = \frac{81}{16}$ [R: $a = \frac{27}{8}$]

(j) $f(0,75) = 0,125$ [R: $a = \frac{1}{16}$]

(k) $f(-1,\overline{3}) = 81$ [R: $a = \frac{1}{27}$]

4. Zapiši eksponentno funkcijo, katere graf gre skozi dano točko:

(a) $T(3,64)$ [R: $a = 4$]

(b) $T\left(-\frac{3}{2}, 8\right)$ [R: $a = \frac{1}{4}$]

(c) $T\left(\frac{3}{2}, \frac{1}{27}\right)$ [R: $a = \frac{1}{9}$]

(d) $T\left(-\frac{2}{3}, 16\right)$ [R: $a = \frac{1}{64}$]

(e) $T\left(-\frac{1}{2}, \frac{4}{3}\right)$ [R: $a = \frac{9}{16}$]