Sestavte a upravte Lagrangeův interpolační polynom pro funkci danou tabulkou

1.

| $x_i$ | –3 | –1 | 1 |
|---|---|---|---|
| $f(x_i)$ | 2 | –2 | 4 |

$$L(x) = \frac{5}{4}x^2 + 3x - \frac{1}{4}$$

2.

| $x_i$ | 1 | 3 | 4 |
|---|---|---|---|
| $f(x_i)$ | 2 | 1 | 5 |

$$L(x) = \frac{3}{2}x^2 - \frac{13}{2}x + 7$$

3.

| $x_i$ | –2 | 1 | 3 |
|---|---|---|---|
| $f(x_i)$ | 1 | 4 | 2 |

$$L(x) = -\frac{2}{5}x^2 + \frac{3}{5}x + \frac{19}{5}$$

4.

| $x_i$ | –5 | 0 | 3 |
|---|---|---|---|
| $f(x_i)$ | 0 | 1 | –2 |

$$L(x) = -\frac{3}{20}x^2 - \frac{11}{20}x + 1$$

5.

| $x_i$ | –1 | 0 | 2 | 3 |
|---|---|---|---|---|
| $f(x_i)$ | 2 | 1 | 0 | 4 |

$$L(x) = \frac{1}{3}x^3 - \frac{1}{6}x^2 - \frac{3}{2}x + 1$$

6.

| $x_i$ | –1 | 0 | 1 | 2 |
|---|---|---|---|---|
| $f(x_i)$ | 2 | 4 | 3 | 2 |

$$L(x) = \frac{1}{2}x^3 - \frac{3}{2}x^2 + 4$$

7.

| $x_i$ | –1 | 0 | 2 | 3 |
|---|---|---|---|---|
| $f(x_i)$ | 2 | 0 | 1 | 4 |

$$L(x) = \frac{5}{6}x^2 - \frac{7}{6}x$$

8.

| $x_i$ | 0 | 2 | 4 | 6 |
|---|---|---|---|---|
| $f(x_i)$ | 2 | 3 | 0 | 5 |

$$L(x) = \frac{1}{4}x^3 - 2x^2 + \frac{7}{2}x + 2$$