

Aluno: Sir Isaac Newton

Submeter até: 16/10/2019 23:59hs

**Q1** Encontre os coeficientes do polinômio de grau 20

$$p(x) = a_0 + a_1(x-x_0) + a_2(x-x_0)(x-x_1) + a_3(x-x_0)(x-x_1)(x-x_2) + \cdots + a_{20}(x-x_0)(x-x_1)(x-x_2) \cdots (x-x_{19})$$

que passa pela seguinte lista de 21 pontos

$(-5.0, 2.83), (-4.5, -4.05), (-4.0, -1.31), (-3.5, 3.55), (-3.0, -0.78), (-2.5, -3.56), (-2.0, 0.06), (-1.5, -0.84),$   
 $(-1.0, -3.58), (-0.5, 2.3), (0.0, -4.64), (0.5, 1.4), (1.0, -4.14), (1.5, 2.16), (2.0, -1.26), (2.5, -3.81), (3.0, 3.42),$   
 $(3.5, -4.11), (4.0, 4.07), (4.5, 3.71), (5.0, -4.7)$

$$a_9 \quad -0.063435626102293$$

$$a_{19} \quad 0.000005179580895$$

$$a_6 \quad -4.782222222222221$$

$$a_{20} \quad -0.000001065351143$$

$$a_{11} \quad -0.016016931216931$$

$$a_{17} \quad 0.000090951097985$$

$$a_2 \quad 19.239999999999998$$

$$a_8 \quad -0.321714285714286$$

$$a_{18} \quad -0.000022873318720$$

$$a_4 \quad -2.5399999999999999$$

$$a_7 \quad 1.825015873015873$$

$$a_{13} \quad 0.004259457415013$$

$$a_{12} \quad -0.002284602640158$$

$$a_{10} \quad 0.061053968253968$$

$$a_{16} \quad -0.000320579753384$$

$$a_0 \quad 2.8300000000000000$$

$$a_3 \quad -10.000000000000000$$

$$a_{14} \quad -0.002416922289938$$

$$a_{15} \quad 0.000974184897994$$

$$a_5 \quad 6.895999999999999$$

$$a_1 \quad -13.760000000000000$$

Aluno: Giuseppe Lodovico Lagrangia

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**Q1** Encontre os coeficientes do polinômio de grau 20

$$p(x) = a_0 + a_1(x-x_0) + a_2(x-x_0)(x-x_1) + a_3(x-x_0)(x-x_1)(x-x_2) + \cdots + a_{20}(x-x_0)(x-x_1)(x-x_2) \cdots (x-x_{19})$$

que passa pela seguinte lista de 21 pontos

$(-5.0, -0.68), (-4.5, 4.94), (-4.0, -2.97), (-3.5, 2.28), (-3.0, 3.98), (-2.5, -1.79), (-2.0, -3.51), (-1.5, -2.16),$   
 $(-1.0, -4.47), (-0.5, 3.53), (0.0, 2.46), (0.5, 3.81), (1.0, 1.37), (1.5, 4.03), (2.0, 4.06), (2.5, 4.47), (3.0, -4.73),$   
 $(3.5, 2.8), (4.0, -2.7), (4.5, 0.57), (5.0, -4.07)$

$$a_4 \quad -28.933333333333334$$

$$a_3 \quad 35.586666666666666$$

$$a_0 \quad -0.6800000000000000$$

$$a_6 \quad -4.759111111111111$$

$$a_{13} \quad 0.007857150257150$$

$$a_8 \quad 0.268761904761905$$

$$a_{10} \quad 0.033202116402116$$

$$a_{14} \quad -0.003020597509486$$

$$a_{16} \quad -0.000263910825604$$

$$a_{11} \quad 0.013927721661055$$

$$a_9 \quad -0.172980599647266$$

$$a_{19} \quad 0.000002987550286$$

$$a_{20} \quad -0.000000579539775$$

$$a_{18} \quad -0.000014463242068$$

$$a_1 \quad 11.240000000000000$$

$$a_{17} \quad 0.000064766961549$$

$$a_7 \quad 0.582857142857143$$

$$a_2 \quad -27.060000000000002$$

$$a_{15} \quad 0.000959044717775$$

$$a_5 \quad 14.984000000000000$$

$$a_{12} \quad -0.015165923788146$$

Aluno: Johann Carl Friedrich Gauss

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**Q1** Encontre os coeficientes do polinômio de grau 20

$$p(x) = a_0 + a_1(x-x_0) + a_2(x-x_0)(x-x_1) + a_3(x-x_0)(x-x_1)(x-x_2) + \cdots + a_{20}(x-x_0)(x-x_1)(x-x_2) \cdots (x-x_{19})$$

que passa pela seguinte lista de 21 pontos

$(-5.0, 1.62), (-4.5, -1.77), (-4.0, 0.95), (-3.5, 0.79), (-3.0, 4.53), (-2.5, 2.03), (-2.0, 4.3), (-1.5, -0.26), (-1.0, 2.56),$   
 $(-0.5, 4.11), (0.0, -2.69), (0.5, -0.07), (1.0, 1.89), (1.5, 3.0), (2.0, -2.03), (2.5, 0.48), (3.0, 0.96), (3.5, -1.22),$   
 $(4.0, -2.21), (4.5, 1.87), (5.0, 1.96)$

$$a_0 \quad 1.6200000000000000$$

$$a_6 \quad 6.289777777777778$$

$$a_{11} \quad -0.140542440275774$$

$$a_{20} \quad -0.000000323881559$$

$$a_{18} \quad -0.000004759489043$$

$$a_{19} \quad 0.000001365266590$$

$$a_{13} \quad -0.010442693109360$$

$$a_{12} \quad 0.042017294639517$$

$$a_{14} \quad 0.002071286033191$$

$$a_2 \quad 12.219999999999999$$

$$a_1 \quad -6.780000000000000$$

$$a_{15} \quad -0.000287793225783$$

$$a_8 \quad 2.073650793650794$$

$$a_{17} \quad 0.000011012858221$$

$$a_{10} \quad 0.398622927689594$$

$$a_{16} \quad 0.000008427144089$$

$$a_9 \quad -0.973375661375661$$

$$a_7 \quad -3.875301587301588$$

$$a_3 \quad -11.986666666666665$$

$$a_4 \quad 10.513333333333332$$

$$a_5 \quad -8.717333333333332$$

Aluno: David Hilbert

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**Q1** Encontre os coeficientes do polinômio de grau 20

$$p(x) = a_0 + a_1(x-x_0) + a_2(x-x_0)(x-x_1) + a_3(x-x_0)(x-x_1)(x-x_2) + \cdots + a_{20}(x-x_0)(x-x_1)(x-x_2) \cdots (x-x_{19})$$

que passa pela seguinte lista de 21 pontos

$(-5.0, 1.17), (-4.5, -0.8), (-4.0, -3.32), (-3.5, -3.6), (-3.0, -2.85), (-2.5, 1.94), (-2.0, -3.7), (-1.5, -1.01),$   
 $(-1.0, -0.63), (-0.5, -1.01), (0.0, -4.61), (0.5, -2.86), (1.0, -3.55), (1.5, 3.86), (2.0, -0.93), (2.5, 4.85), (3.0, 2.64),$   
 $(3.5, 4.16), (4.0, 0.63), (4.5, 0.04), (5.0, -4.04)$

$$a_7 \quad 2.598857142857143$$

$$a_{18} \quad -0.000010402429597$$

$$a_{16} \quad -0.000187597814688$$

$$a_2 \quad -1.099999999999999$$

$$a_{17} \quad 0.000044350403317$$

$$a_{10} \quad -0.416019753086420$$

$$a_{20} \quad -0.000000532753291$$

$$a_0 \quad 1.170000000000000$$

$$a_9 \quad 0.975506172839506$$

$$a_6 \quad -2.659555555555555$$

$$a_{19} \quad 0.000002394358588$$

$$a_{14} \quad -0.003229188448236$$

$$a_5 \quad 2.191999999999999$$

$$a_{12} \quad -0.045710865266421$$

$$a_{15} \quad 0.000787102186467$$

$$a_{13} \quad 0.012632516454739$$

$$a_{11} \quad 0.148161487894821$$

$$a_1 \quad -3.940000000000000$$

$$a_8 \quad -1.829079365079365$$

$$a_3 \quad 3.719999999999999$$

$$a_4 \quad -2.666666666666666$$