

Example Functions

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| Problem | $f(x)$ |
|---------|--|
| 1 | $x^2, 0 \leq x \leq 1$ |
| 2 | $x + \sin(x), 0 \leq x \leq 2\pi$ |
| 3 | $\sqrt{x}, 0.1 \leq x \leq 1$ |
| 4 | $\cos(x), 0 \leq x \leq 1$ |
| 5 | $x^3 - 3x^2 + 2x + 3, 1 \leq x \leq 5$ |
| 6 | $e^{-x} \cos(2\pi x), 0 \leq x \leq 4$ |
| 7 | $\cos(x), 0 \leq x \leq 8$ |
| 8 | $x(x-1)(x-2), -1 \leq x \leq 3$ |
| 9 | $-x(x-1)(x-2), -1 \leq x \leq 3$ |
| 10 | $(x-1)^3, 0 \leq x \leq 3$ |
| 11 | $\sqrt{1 - (x-2)^2}, 1.1 \leq x \leq 2.9$ |
| 12 | $4x/(x^2 + 2), -5 \leq x \leq 5$ |
| 13 | $\sqrt{x^3(2-x)/9}, 0 \leq x \leq 1.9$ |
| 14 | $x - \sin(x), 0 \leq x \leq 2\pi$ |
| 15 | $x \sin(x), 0 \leq x \leq 2\pi$ |
| 16 | $x(x-1)(x-2)(x-3), 0 \leq x \leq 4$ |
| 17 | $\sqrt{1 - (x-2)^2}, 1.1 \leq x \leq 2.9$ |
| 18 | $2 \sin(x) - \cos(2x), 0 \leq x \leq 2\pi$ |
| 19 | $\sin(x + \sin(2x)), 0 \leq x \leq \pi$ |
| 20 | $Si(x), 0.01 \leq x \leq \pi$ |
| 21 | $x^3 - 12x, 0 \leq x \leq 4$ |
| 22 | $x^6 - x^5, 0 \leq x \leq 4$ |
| 23 | $3x^4 - 16x^3 + 18x^2, -1 \leq x \leq 4$ |
| 24 | $x^4 - 4x^3, -1 \leq x \leq 4.1$ |
| 25 | $\sin^{-1}(2x-4)/2, 1.6 \leq x \leq 2.4$ |
| 26 | $\cosh x, -1 \leq x \leq 1$ |
| 27 | $\cosh x, -2 \leq x \leq 1$ |
| 28 | $\sinh x, -2 \leq x \leq 1$ |
| 29 | $\tanh x, -2 \leq x \leq 1$ |
| 30 | $1/\cosh x, -2 \leq x \leq 1$ |
| 31 | $x + \sqrt{x^2 - 1}, 1.1 \leq x \leq 5$ |
| 32 | $x - \sqrt{x^2 - 1}, 1.1 \leq x \leq 5$ |
| 33 | $(x + 1/x)/2, 0.1 \leq x \leq 10$ |
| 34 | $4 \ln((4 + \sqrt{16 - x^2})/x) - \sqrt{16 - x^2}, 0.01 \leq x \leq 3.9$ |
| 35 | $x \cos(x), 0 \leq x \leq 3\pi$ |
| 36 | $x \cos(2x), 0 \leq x \leq 3\pi$ |
| 37 | $x/(x^2 + 1), 0 \leq x \leq 2$ |
| 38 | $10x/(x^2 + 1) + 3, -5 \leq x \leq 10$ |
| 39 | $\sqrt{x} \cos(2x), 1 \leq x \leq 3\pi$ |
| 40 | $(1 + \sin(x)) \cos(2x), 0 \leq x \leq 3\pi$ |
| 41 | $e^{\sin(2x)-x/5}, 0 \leq x \leq 3\pi$ |
| 42 | $x e^{\sin(2x)}, 0 \leq x \leq 3\pi$ |
| 43 | $\cos(x) e^{\sin(2x)}, 0 \leq x \leq 3\pi$ |

Table 1: Example Functions