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Bapiant 5 1 cryp. Tynya Dwwrypo

1) y^{(4)} + 8y'' + 16y = \sin 2t + 1\cos 2t;

\frac{d^4y}{dt^4} + \frac{8d^2y}{dt^2} + 16y = 0; y(t) = e^{at};

2^4e^{at} + 83^2e^{at} + 16e^{at} = 0; e^{at} (3^4 + 83^2 + 16) = 0; (3^2 + 4)^2 = 0;

1 = 12i; y_1 = c_1e^{2it}, y_2 = c_2e^{-2it}, y_3 = e_3e^{2it}, y_4 = e_4e^{-2it}

1 = 12i; y_1 = c_1e^{2it}, y_2 = c_2e^{-2it}, y_3 = e_3e^{2it}, y_4 = e_4e^{-2it}

1 = 12i; 1 = e_4e^{-2it}

1
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1)

Bapiant-5 2 crp. Tyun Dumpo
2)
$$y = (y'-1)e^{y(1)}$$
 $y' = \frac{dy}{dt} = t \Rightarrow (t-1)e^{t} = y$
 $dy = e^{t}dt + (t-1)e^{t}dt = te^{t}dt$
 $\frac{dy}{dx} = t$; $e^{t}dt = dx$; $e^{x} = x + C$
 $3x^{2}(1+\ln y)dx = (2y - \frac{y^{3}}{x})dy$.
(1) - p-19 Hepozbiazne bignocno noscignoi

2)

3) НЕ ВИРІШИВ

Bapiant - 5 4 cryp. Jyya Dumpe 4) $xy' = y\cos \ln \frac{y^{(2)}}{x}$; y = ux = > dy = u dx + x dy $udx + x du = u\cos(\ln u) dx$; $u(\cos(\ln u) - 1) dx = x du$ $\int \frac{dt}{dt} = -\frac{1}{2} \int \frac{dt}{\sin^{2} t_{n}} = e + g + f_{2} + C$; $\ln x = e + g + f_{2}$ (2) - eghopione p - ng I nop lgky.

4)