Readiness Assurance Test

Choose the most appropriate response for each question.

21) Solve the system

$$2x - 3y = 7$$
$$3x + 4y = 2$$

(a) $x = -1,\ y = 3$ (b) $x = -2,\ y = -1$ (c) $x = 3,\ y = 1$ (d) $x = 2,\ y = -1$

22) Solve the system

$$tx + 2y = t^3 + 2t$$
$$x + ty = 2t^2$$

(a) $x = t + 1,\ y = t - 1$ (b) $x = t + 1,\ y = t^2$ (c) $x = t,\ y = t^2 - 1$ (d) $x = t^2,\ y = t$

23) Solve

$$y'' + 8y' + 20 = 0.$$

(a) $y = c_1 e^{-4t}\cos(2t) + c_2 e^{-4t}\sin(2t)$
(b) $y = c_1 e^{4t}\cos(4t) + c_2 e^{4t}\sin(4t)$
(c) $y = c_1 e^{-10t} + c_2 e^{2t}$
(d) $y = c_1 e^{10t} + c_2 e^{-2t}$

24) Solve

$$y'' + 8y' - 20 = 0.$$

(a) $y = c_1 e^{-4t}\cos(2t) + c_2 e^{-4t}\sin(2t)$
(b) $y = c_1 e^{4t}\cos(4t) + c_2 e^{4t}\sin(4t)$
(c) $y = c_1 e^{-10t} + c_2 e^{2t}$
(d) $y = c_1 e^{10t} + c_2 e^{-2t}$

25)

26)

27)

28)

29)

30)