

10      ORDINARY DIFFERENTIAL EQUATIONS

In (23)–(26) verify whether the given ODE

$$(23) \quad xy'' - y' \sin x = xe^x.$$

$$(24) \quad y' + 2x \sin y = 1.$$

$$(25) \quad y'y'' - xy = 2x.$$

$$(26) \quad y'' + \sqrt{x}y = \ln x.$$