

Suggested problems 30

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1. Determine whether each PDE can be separated. Then separate it into two ODEs if it is possible to separate.

(a) $x^2u_{xx} - t^2u_{tt} = 0$;

(b) $xu_{xx} - \pi u_{tt} = 5u_{xt}$;

(c) $u_{xx} + 2tu_{tx} = 4u$, $u_x(0, t) = 0$, $u(9, t) = 0$.