

**Sec. 1.6:** problems 4, 8, 22, 24, 30, 35, 37, 38, 45, 46, 51, 52.

*Hint to Problem 1.6/30:* Set  $u(x) = e^{y(x)}$  to obtain a homogeneous equation for  $u(x)$ .

*Hint to Problem 1.6/45:* To obtain the answer in the book, use the trigonometric identity

$$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta .$$

*Remark to Problems 1.6/51 and 1.6/52:* The problems have singular solutions – find them!

**Food for thought:**<sup>1</sup> Sec. 1.6, problems 63, 64, 66, 67.

<sup>1</sup> “Food for thought” problems are problems you should think about, but not turn in with the regular homework problems.