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*All answers must be justified appropriately.*

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From TREIL do problems:

page 97: 3.7.2

page 104—for these three problems you may assume, following TREIL, that the field  $\mathbb{F}$  is the real or complex field: 4.1.1, 4.1.2, 4.1.4,

page 104: 4.1.5, 4.1.6

page 114:

4.2.1,

4.2.3 (assume that  $5 \neq 0$  in  $\mathbb{F}$ ),

4.2.6 (assume that  $2 \neq 0 \neq 3$  in  $\mathbb{F}$ ),

4.2.8 (assume that  $7 \neq 0$  in  $\mathbb{F}$ ).