Chap 4 p. 162 HW

① Music Shop.

a) Let B = # of basses
G = # of guitars

$900B + 750G = C$

b) $B + G \leq 50$

$G \geq 2B$

$G \geq 17$

$B \geq 5$

d) $C \geq 36{,}000$

$900B + 750G \geq 36{,}000$

$9B + 7.5G \geq 360$

$(0, 48)$ $(40, 0)$
$B \quad G$ $B \quad G$

e) $A(5, 42)$ $B(5, 45)$

$C\left(\frac{50}{3}, \frac{100}{3}\right)$ $D(15, 30)$

$G = 2B$
$B + G = 50$
$B + 2B = 50$
$3B = 50$
$B = \frac{50}{3}$
$G = \frac{100}{3}$

$G = 2B$
$9B + 7.5G = 360$
$9B + 15B = 360$
$24B = 360$
$B = 15$
$G = 30$

$900B + 750G = C$

Vertices	Max. Cost
$A(5, 42)$	36,000
$B(5, 45)$	38,250
$C\left(\frac{50}{3}, \frac{100}{3}\right)$	40,000 *
$D(15, 30)$	36,000

Analyze your values:

	Basses	Guitars	Cost	
	16	33	39,150	Within feasible regia meets all parameter
*	16	34	39,900	Within feasible regia
	17	33	40,050 fails $G \geq 2B$	X over max. cost / not in feasible regic
	17	34	40,800 X	over max cost / not in feasible regian

Answers

16 basses
34 Guitars
for $39,900

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