A02

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	$f_{.1}$	$f_{.2}$	$f_{.3}$	
$f_{1.}$	5	5	30	40
$f_{2.}$	15	25	20	60
	20	50	50	100

$df = 2$, $P = 0.05$
critical X^2 Value: 5.991

$$X^2_{IND} = \sum_{ij} \frac{(f_{ij}^{obs} - f_{ij}^{exp})^2}{f_{ij}^{exp}}$$

$$= \frac{(5-8)^2}{8} + \frac{(5-12)^2}{12} + \frac{(30-20)^2}{20} +$$

$$+ \frac{(15-12)^2}{12} + \frac{(25-18)^2}{18} + \frac{(20-30)^2}{30}$$

$$= \frac{9}{8} + \frac{49}{12} + \frac{100}{20}_{5} + \frac{9^{3}4}{12}_{2} + \frac{49}{18} + \frac{100}{30}$$

$$\approx \underline{17.014 \geq 5.991}$$

A: As the X^2 value is larger than the critical Value of 5.991 a dependency within the features is indicated.