

Re: Rings, Restatement of earlier problem

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Tony <Ttiger222@hotmail.com> wrote:

>

> *Find a ring with an element that has 2 left inverses.*

It's trivial generically: $Z[w,x,y]/(wx-1, yx-1)$

These elts are the right unit zero-divisors, i.e.

THEOREM The following are equivalent

1) x has more than one left inverse

2) x is a right divisor of 1 and 0

PROOF 1) \Rightarrow 2) $yx = 1, wx = 1 \Rightarrow (y-w)x = 0$

2) \Rightarrow 1) $yx = 1, zx = 0 \Rightarrow (y+z)x = 1$

So equivalently generically: $Z[w,x,z]/(wx-1, zx)$

--Bill Dubuque