Inference at $*\ 1\ 1\ 1$
of proof for Lemma mul_cancel_in_eq:

1. $a : \mathbb{Z}$
2. $b : \mathbb{Z}$
3. $m : \mathbb{N}^+$
4. $(m * a) = (m * b)$
5. $(a > b) \vee (a = b) \vee (a < b)$

$\vdash a = b$
by RepeatOrHD 5

1:

5. $a > b$
$\vdash a = b$

2:

5. $a = b$
$\vdash a = b$

3:

5. $a < b$
$\vdash a = b$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_75290_{mul_cancel_in_eq}1_1_1.html