MT - 11/98 Anne Feren

36 methods of mathematical proof

I received the information shown via e-mail about ten years ago. The unknown authors will have to go unrecognized but not unthanked. I thought that these methods would leaven this issue on proof.

If the proof of a theorem is not immediately apparent, it may be because you are trying the wrong approach. Below are some effective methods of proof that may aim you in the right direction.

Proof by obviousness	"The proof is so clear that it need not be mentioned."
Proof by general agreement	"All in favor? . . . "
Proof by imagination	"Well, we'll pretend it's true . . . "
Proof by convenience	"It would be very nice if it were true, so . . . "
Proof by necessity	"It had better be true, or the entire structure of mathematics would crumble to the ground."
Proof by plausibility	"It sounds good, so it must be true."
Proof by intimidation	"Don't be stupid; of course it's true."
Proof by lack of sufficient time	"Because of the time constraint, I'll leave the proof to you."
Proof by postponement	"The proof for this is long and arduous, so it is given in the appendix."
Proof by accident	"Hey, what have we here?!"
Proof by insignificance	"Who really cares, anyway?"
Proof by mumbo-jumbo	$\forall \alpha \in \Phi, \exists \beta \ni \alpha * \beta = e \ldots$
Proof by profanity	(example omitted)
Proof by definition	"We define it to be true."
Proof by tautology	"It's true because it's true."
Proof by plagiarism	"As we see on page 289, . . . "
Proof by lost reference	"I know I saw it somewhere. . . . "
Proof by calculus	"This proof requires calculus, so we'll skip it."
Proof by terror	When intimidation fails . . .
Proof by lack of interest	"Does anyone really want to see this?"
Proof by illegibility	[illegible] QED
Proof by logic	"If it is on the problem sheet, then it must be true!"
Proof by majority rule	Only to be used if general agreement is impossible
Proof by clever variable choice	"Let A be the number such that this proof works . . . "
Proof by tessellation	"This proof is the same as the last."
Proof by divine word	". . . And the Lord said, 'Let it be true,' and it was true."
Proof by stubbornness	"I don't care what you say—it is true!"
Proof by simplification	"This proof reduces to the statement $1 + 1 = 2$."
Proof by hasty generalization	"Well, it works for 17, so it works for all reals."
Proof by deception	"Now everyone turn their backs . . . "
Proof by supplication	"Oh please, let it be true."
Proof by poor analogy	"Well, it's just like . . . "
Proof by avoidance	Limit of proof by postponement as it approaches infinity
Proof by design	If it's not true in today's math, invent a new system in which it is.
Proof by authority	"Well, Don Knuth says it's true, so it must be!"
Proof by intuition	"I just have this gut feeling . . . "

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