

1.7 Proofs: Ben Pany

$$(x+y)^2 = x^2 + 2xy + y^2$$

1. $(x+y)(x+y) \rightarrow$ definition "squared"
2. $x(x+y) + y(x+y) \rightarrow$ (7) Distribution
3. $(xx + xy) + (yx + yy) \rightarrow$ (7) Distribution
4. $(x^2 + xy) + (yx + y^2) \rightarrow$ definition "squared"
5. $x^2 + (xy + (xy + y^2)) \rightarrow$ (2) Associative
6. $x^2 + ((xy + xy) + y^2) \rightarrow$ Associative (7)
7. $x^2 + 2xy + y^2 \rightarrow$ Associative & "squared"