

101. Let, $(x+(-1)) > 0$ 102. $(x+(-1))+1 > 0+1$ (Thm 2.1.7(b))
103. ~~103.~~ $(x+(-1))+1 > 1$ (Substitute eq 31 in 102)
104. $(x+(-1))+1 = x+((-1)+1)$ (A2) 105. $(x+(-1))+1 = x+0$
(Substitute eq 29 in RHS of 104)
106. $x+0 = x$ (A5)
107. $(x+(-1))+1 = x$ (Transitivity of eq 105, 106)
108. $x > 1$ (Substitute eq 107 in 103)
109. $(2x+1)+(-1) < 0+(-1)$ (Thm 2.1.7(b) on 90)
110. $0+(-1) = (-1)$ (A3)
111. $(2x+1)+(-1) < (-1)$ (Substitute eq 110 in 109)
112. $(2x+1)+(-1) = 2x+(1+(-1))$ (A2)
113. $1+(-1) = 0$ (A4) 114. $2x+(1+(-1)) = 2x+0$ (Substitute eq 113)
115. $(2x+1)+(-1) = 2x+0$ (Transitivity of eq 112, 114)
116. $2x+0 = 2x$ (A3) 117. $(2x+1)+(-1) = 2x$ (Transitivity of eq 115, 116)
118. $2x < -1$ (Substitute eq 117 in 111)
119. $\frac{1}{2} > 0$ (Proved in prev claim between Thm 2.1.8 and Thm 2.1.9)
120. $\frac{1}{2} \cdot (2x) < \frac{1}{2} \cdot (-1)$ (Thm 2.1.7(c))
121. $\frac{1}{2} \cdot (-1) = (-1) \cdot \frac{1}{2}$ (M1) 122. $(-1) \cdot \frac{1}{2} = -(1/2)$ (Ex 2.1, 1(c))
123. $\frac{1}{2} \cdot (-1) = -(1/2)$ (Transitivity of eq 121, 122)
124. $\frac{1}{2} \cdot (2x) < -(1/2)$ (Substitute eq 123 in RHS of 120)
125. $(\frac{1}{2} \cdot 2) \cdot x = \frac{1}{2} \cdot (2 \cdot x)$ (M2) 126. By Stmt 119, Trichotomy prop,
we get: $\frac{1}{2} \neq 0$ 127. $\frac{1}{2} \cdot 2 = 1$ (126, M4) 128. $(\frac{1}{2} \cdot 2) \cdot x = 1 \cdot x$
(Substitute eq 127)
129. $1 \cdot x = x$ (M3) 130. $(\frac{1}{2} \cdot 2) \cdot x = x$ (Transitivity of eq 128, 129)
131. $\frac{1}{2} \cdot (2 \cdot x) = (\frac{1}{2} \cdot 2) \cdot x$ (Symmetry of eq 125)
132. $\frac{1}{2} \cdot (2 \cdot x) = x$ (Transitivity of eq 130, 131)