$A = \{x \mid \exists a \in (0,1] \mid x = q + a(t-q)\} \cap R.$
$B = \{x \mid (x-p) \wedge (x-y) = 0 \, \forall y \in A \cap C\}.$
$C = \{x \mid \|x-p\|_2 = \|p-q\|_2\}.$
$D = \{x \mid \|x-r\|_2 = \max\{\|y-z\|_2 \mid y, z \in S\}\}.$
$E = B \cap R \cap \{x \mid \|x-r\|_2 > \|x-t\|_2\}.$
$F = \{x \mid \exists y \in E, z \in Z, a \in [0,1] \mid x = y + a(z-y)\}.$
$G = \{x \mid 2p - x \in F\}.$
$H = G \cap W.$
$I = (R \cap M) \setminus T.$
$J = \{x \mid \exists a \in [0,1) \mid x = u + a(q-u)\}.$
$K = \{x \mid \|x-q\|_2 = \|u-q\|_2\}.$
$L = \{x \mid (p-q) \wedge (p-x) = 0\}.$
$M = \{x \mid \|q-x\|_2 = \|q-2p+x\|_2\}.$
$N = K \cap \{x \mid \|x-u\|_2 < \|p-q\|_2/2\}.$
$O = \{x \mid x \in N \text{ and } \|x-p\|_2 > \|u-p\|_2\}.$
$P = \{x \mid \|x-v\|_2 = \|2p-r-v\|_2\}.$
$Q = \{x \mid x \in P \text{ and } \|x-y\|_2 \leq \|x-u\|_2 \, \forall y \in X \cap T\}.$
$R = \{x \mid \exists y \in S \mid \|x-p\|_2 = \|y-p\|_2\}.$
$S = L \cap \{x \mid (x-q) \cdot (p-q) \leq 0 \text{ and } \|x-y\|_2 \leq 2\|p-q\|_2 \, \forall y \in M \cap C\}.$
$T = \{x \mid x \in M \cap R \text{ and } \|x-s\|_2 < \|x-p\|_2\}.$
$U = \{x \mid x \in R \text{ and } \exists y \in T, a \geq 0 \mid x = y + a(y-q)\}.$
$V = U \cap \{x \mid \|x-p\|_2 = \|r-p\|_2\}.$
$W = \{x \mid \|x-p\|_2 = \frac{1+\sqrt{3}}{2}\|q-p\|_2\}.$
$X = W \cap U.$
$Y = \{x \mid \|x-y\|_2 = \|x-z\|_2 \, \forall y \in S \cap C, z \in T \cap C\}.$
$Z = \{x \mid x \in Y \cap R \text{ and } \|x-p\|_2 < \|x-q\|_2\}.$
$\exists p.$
$q \neq p.$
$r \in \{x \mid \|x-q\|_2 = \max\{\|y-z\|_2 \mid y \in C \text{ and } z \in S\}\}.$
$s \in M \cap R.$
$t \in \{x \mid x \in Z \text{ and } \|x-p\|_2 \geq \|y-p\|_2 \, \forall y \in T\}.$
$u \in I \cap W.$
$v \in S.$
$|D \cap C| = 1.$
$|P \cap W| = 1.$
Answer: $(A \cup D \cup E \cup H \cup I \cup J \cup O \cup Q \cup S \cup T \cup V \cup X \cup Z) \cap R.$