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1. $H_0: \mu \geq 198$
   ① $H_1: \mu < 198$
   ② $\alpha = 0.05$
   ③ $t_{0.05}(9) = -1.833$, $T < 1.833$
   ④ $\dfrac{190 - 198}{\frac{13.16}{\sqrt{10}}} = -1.922$

   拒絕 H_0 #

2. $H_0: \mu = 420$
   ① $H_1: \mu \neq 420$
   ② $\alpha = 0.05$
   ③ $Z_{0.025} = 1.96$, $|Z| > 1.96$
   ④ $\dfrac{423 - 420}{\frac{12}{\sqrt{100}}} = 25$

   拒絕 H_0 #

3. ① $H_0: \mu \geq 70$
      $H_1: \mu < 70$
   ② $\alpha = 0.03$
   ③ $Z_{0.03} = -1.88$, $Z < -1.88$
   ④ $\dfrac{68.5 - 70}{\frac{6}{\sqrt{36}}} = -1.5$

   不拒絕 H_0 #

4. $P(Z < -1.5)$
   $\Rightarrow 0.0665 > 0.03$
   $\Rightarrow$ 不拒絕 H_0 #

5. ① $H_0 : \mu \leq 1.5$
   $H_1 : \mu > 1.5$

   ② $\alpha = 0.05$

   ③ $t_{0.05}(4) = 2.132$, $T > 2.132$

   ④ $\dfrac{52 - 1.5}{\dfrac{0.019}{\sqrt{5}}} = 2.354$

   拒絕 H_0 #