H9

6.56. (a) For H_a: $\mu > \mu_0$, the P-value is $P(Z > 1.34) = 0.0901$.
(b) For H_a: $\mu < \mu_0$, the P-value is $P(Z < 1.34) = 0.9099$.
(c) For H_a: $\mu \neq \mu_0$, the P-value is $2P(Z > 1.34) = 2(0.0901) = 0.1802$.

6.57. (a) For H_a: $\mu > \mu_0$, the P-value is $P(Z > -1.73) = 0.9582$.
(b) For H_a: $\mu < \mu_0$, the P-value is $P(Z < -1.73) = 0.0418$.
(c) For H_a: $\mu \neq \mu_0$, the P-value is $2P(Z < -1.73) = 2(0.0418) = 0.0836$.

6.70. (a) H_0: $\mu = 9.5$ mg/dl vs. H_a: $\mu \neq 9.5$ mg/dl. (b) $z = \frac{9.57 - 9.5}{0.4/\sqrt{160}} = 2.21$, so the P-value is $P = 2P(Z > 2.21) = 0.0272$. This is pretty strong evidence that μ is different from (greater than) 9.5 mg/dl. (c) The 95% confidence interval is $9.57 \pm (1.96)(0.4/\sqrt{160}) = 9.57 \pm 0.062 = 9.508$ to 9.632.