Problems discussed in the videos:

Videos (14)-(15)

36.) Which of the following is the *best* buffer system?

A) 0.0001 M acetic acid & 0.0001 M potassium acetate
B) 0.100 M acetic acid & 0.100 M potassium acetate
C) 0.010 M nitric acid & 0.010 M sodium nitrate
D) 0.100 M nitric acid & 0.100 M potassium acetate
E) 0.100 M acetic acid & 0.100 M ammonia

Video (16)

The K_a for formic acid HCOOH is $1.77 \cdot 10^{-4}$. Use this information to answer the following six related questions.

42.) What is the pH of a 0.20 M solution of formic acid when it is titrated to one-half its equivalence point (assume no volume change)?

A) 2.56 B) 3.75 C) 4.85 D) 5.95 E) 7.00

Video (17)

45.) What is the pH of a 0.20 M formic acid solution when it is titrated to equivalence point (assume no volume change)?

A) 5.5 B) 6.5 C) 7.5 D) 8.5 E) 9.5

Video (18)

47.) What is the pH at the equivalence point of a titration of a weak base with a strong acid?

A) pH>7 B) pH=7 C) pH<7 D) Can't determine