Chemistry 20 – Lesson 27
Indicators

/11

1.

/1 **An indicator is a solution that changes color depending on the pH of the solution**.

2.

/2 **Since neutralization between a strong acid and a strong base occurs at pH 7 one would choose an indicator that changes color at pH 7. Possibilities include bromocresol green, bromothymol blue, phenol red, phenolphthalein**.

3.

	bromothymol blue turned yellow	**∴pH<6.0**
/2	methyl orange turned yellow	**∴pH>4.4**
	phenolphthalein is colorless	**∴pH<8.2**

The pH range is between 4.4 and 6.0

4.

Solution A

	methyl violet was blue	**∴pH>1.6**
/2	methyl orange was yellow	**∴pH>4.4**
	methyl red was red	**∴pH<4.8**
	phenolphthalein was colorless	**∴pH<8.2**

The pH range for solution A is between 4.4 and 4.8

Solution B

	indigo carmine was blue	**∴pH<11.4**
/2	phenol red was yellow	**∴pH<6.6**
	bromocresol green was blue	**∴pH>5.4**
	methyl red was yellow	**∴pH>6.0**

The pH range for solution B is between 6.0 and 6.6

Solution C

	phenolphthalein was colorless	**∴pH<8.2**
/2	thymol blue was yellow	**∴2.8<pH<8.0**
	bromocresol green was yellow	**∴pH<3.8**
	methyl orange was orange	**∴3.2<pH<4.4**

The pH range for solution C is between 3.2 and 3.8