Postlab Questions

1) Calculate your actual yield based on the amount of biodiesel you isolated after heating to remove residual methanol. Calculate the actual yield of biodiesel based on the amount of biodiesel before separation and heating.

Use this table to answer the following questions.

Fuel	mp (^{o}C)	bp (^{o}C) or smoke point	density (g/mL) at 25°C	viscosity (mPa s) at 25°C
Soybean Oil	-21	241	0.894	69
Biodiesel	-35	373	0.884	6.4
Gasoline (isooctane)	-60	121	0.735	1.2
Petroleum diesel	-40	315	0.848	3.5

2) If you had four containers without labels one biodiesel, one veggie oil, one petroleum diesel, one gasoline what experiments would you have to run to differentiate them?

3) How would you expect the viscosity of fuel to affect its performance on a cold day (think about -20°C in the winter in Minnesota)? Which of the fuels listed in the table above would work best on a cold day?