

1.
  - a. Mystery novels have more elastic demand than required textbooks, because mystery novels have close substitutes and are a luxury good, while required textbooks are a necessity with no close substitutes. If the price of mystery novels were to rise, readers could substitute other types of novels, or buy fewer novels altogether. But if the price of required textbooks were to rise, students would have little choice but to pay the higher price. Thus the quantity demanded of required textbooks is less responsive to price than the quantity demanded of mystery novels.
  - b. Beethoven recordings have more elastic demand than classical music recordings in general. Beethoven recordings are a narrower market than classical music recordings, so it's easy to find close substitutes for them. If the price of Beethoven recordings were to rise, people could substitute other classical recordings, like Mozart. But if the price of all classical recordings were to rise, substitution would be more difficult (a transition from classical music to rap is unlikely!). Thus the quantity demanded of classical recordings is less responsive to price than the quantity demanded of Beethoven recordings.
  - c. Heating oil during the next five years has more elastic demand than heating oil during the next six months. Goods have a more elastic demand over longer time horizons. If the price of heating oil were to rise temporarily, consumers couldn't switch to other sources of fuel without great expense. But if the price of heating oil were to be high for a long time, people would gradually switch to gas or electric heat. As a result, the quantity demanded of heating oil during the next six months is less responsive to price than the quantity demanded of heating oil during the next five years.
8.
  - a. With a price elasticity of demand of 0.4, reducing the quantity demanded of cigarettes by 20 percent requires a 50 percent increase in price, since  $20/50 = 0.4$ . With the price of cigarettes currently \$2, this would require an increase in the price to \$3.33 a pack using the midpoint method (note that  $(\$3.33 - \$2)/\$2.67 = .50$ ).
  - b. The policy will have a larger effect five years from now than it does one year from now. The elasticity is larger in the long run, since it may take some time for people to reduce their cigarette usage. The habit of smoking is hard to break in the short run.