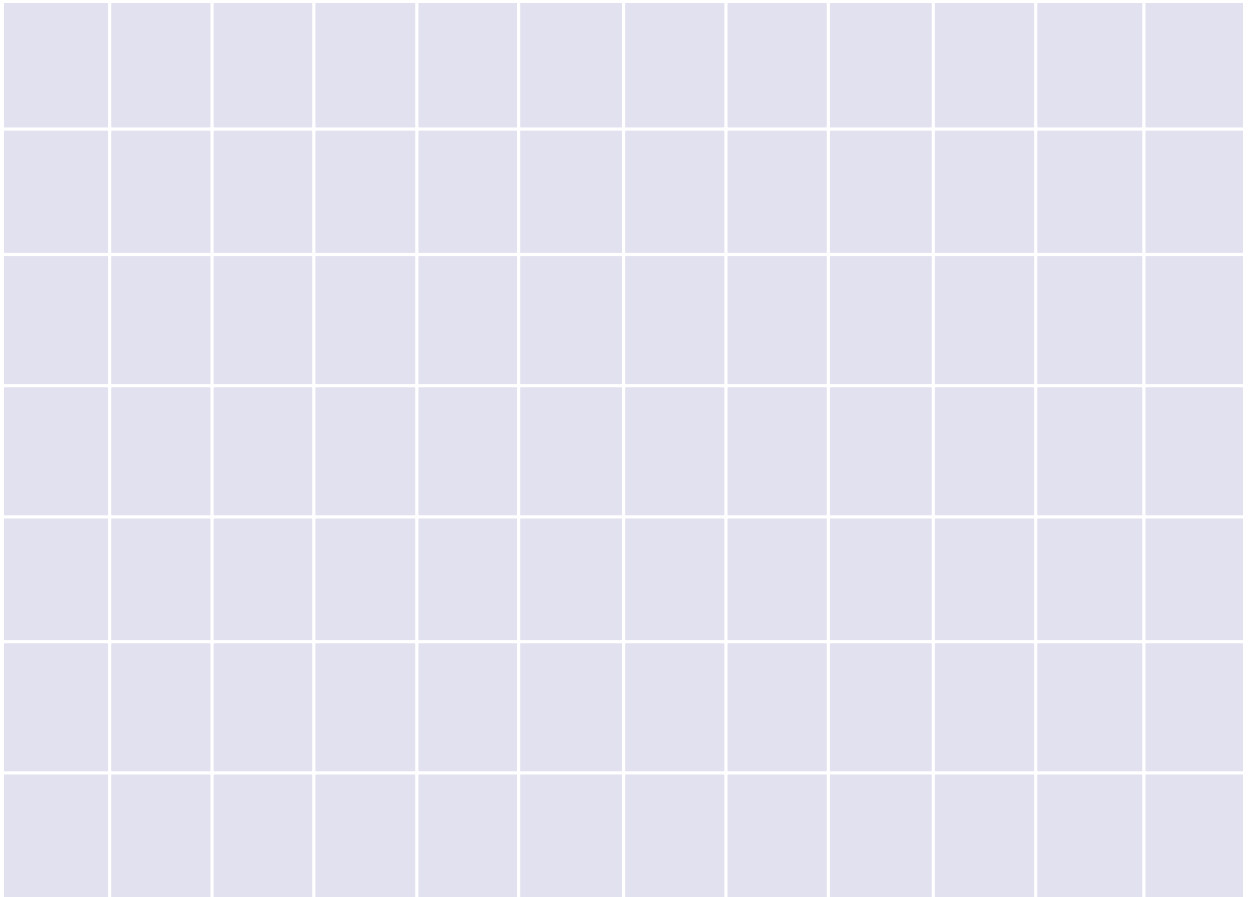


## VISUAL 4.1 ▲ Warm-Up

1. On a coordinate grid, graph the equation:

$$x - 3y = -6$$



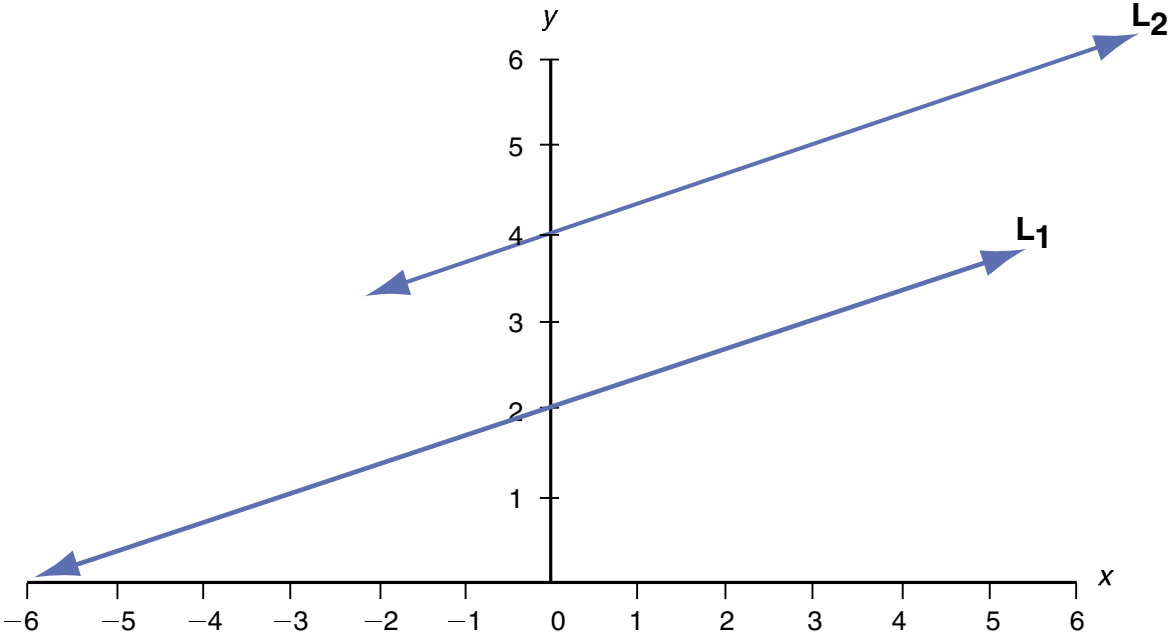
2. Label this line  $L_1$ .

3. On the same grid, graph the line parallel to the line  $L_1$  that passes through the point (6, 6). Label this line  $L_2$ , and write its equation.

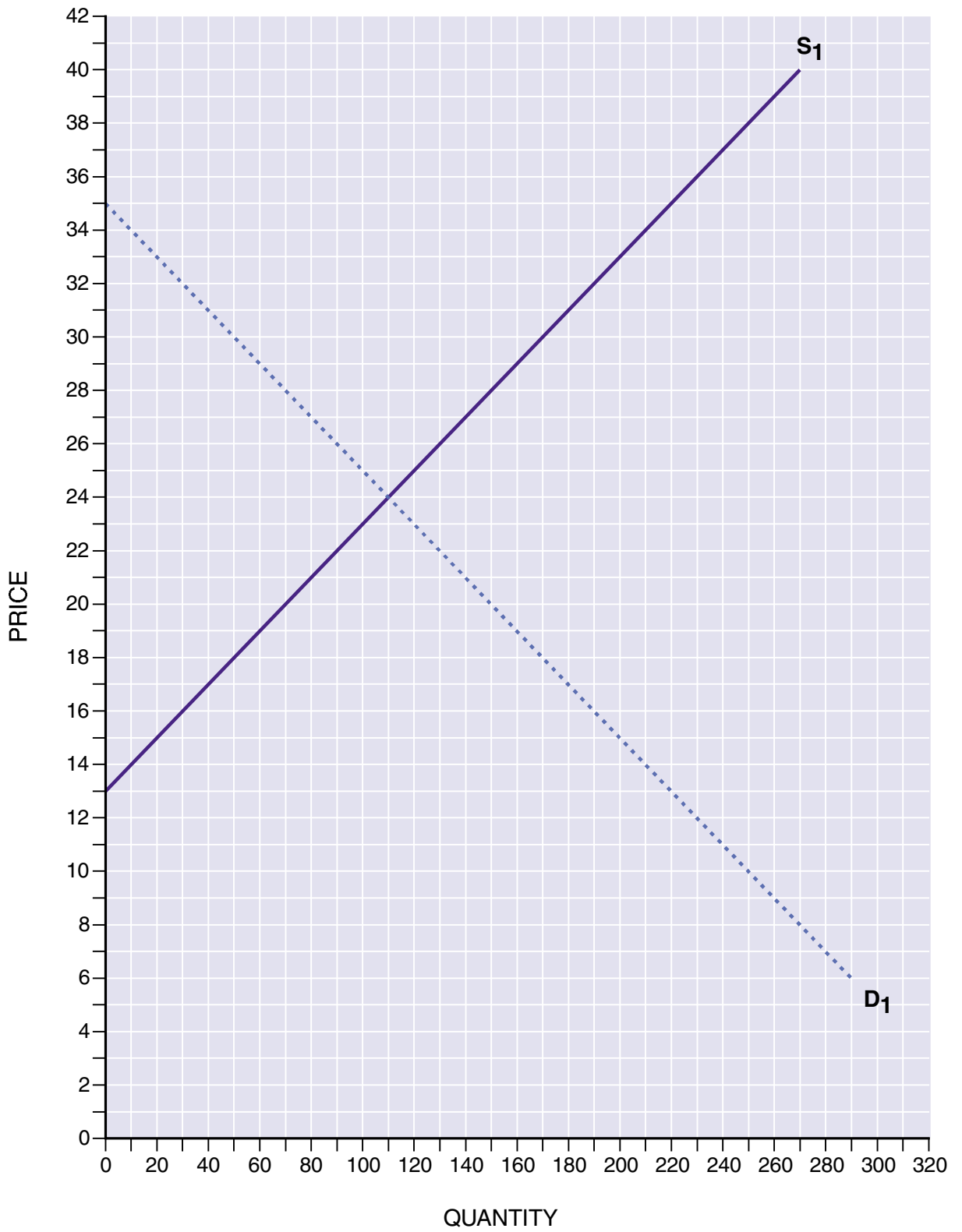
4. What is the slope of  $L_1$ ?

5. What is the slope of  $L_2$ ?

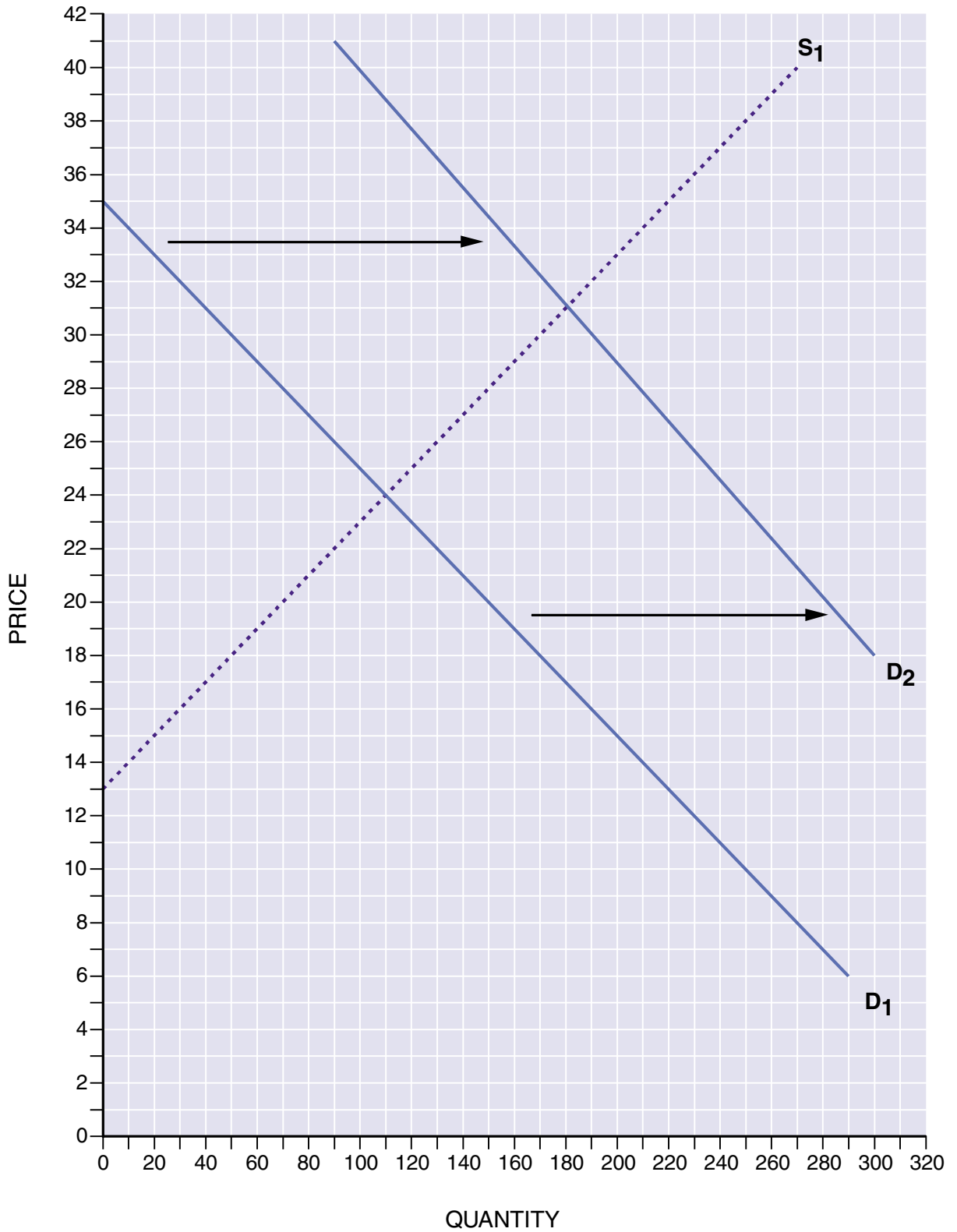
# VISUAL 4.2 ▲ Graph for Warm-Up



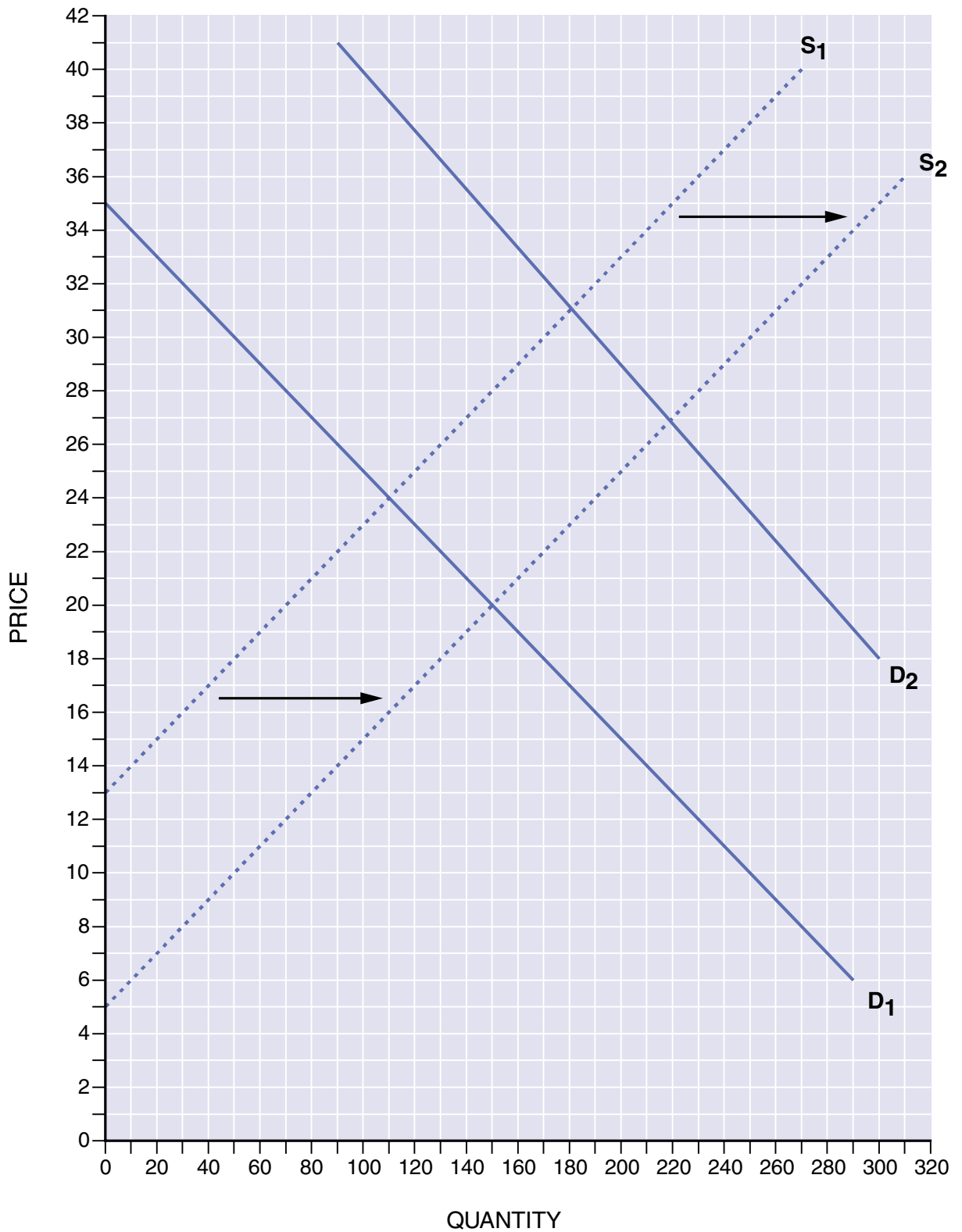
# VISUAL 4.3



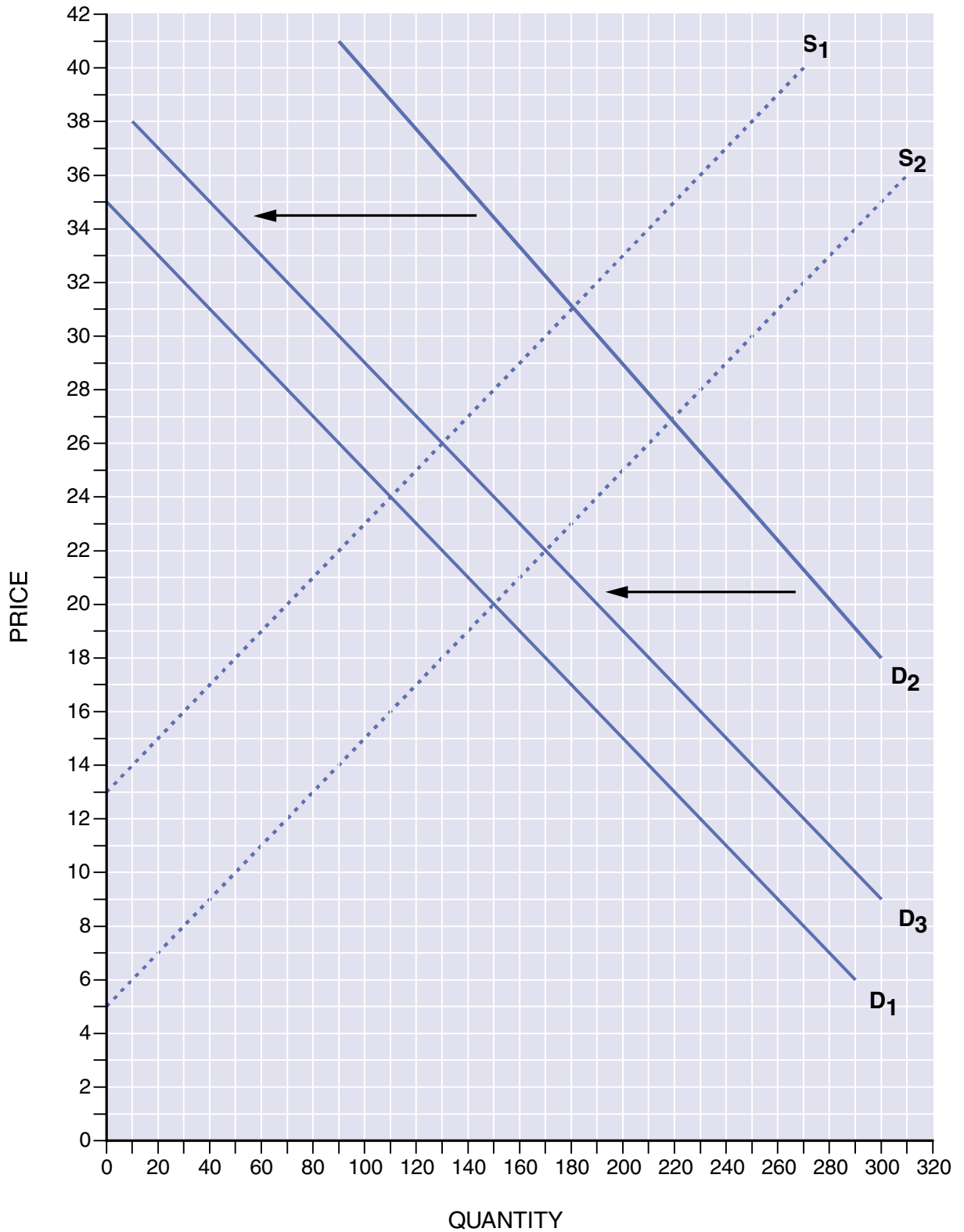
# VISUAL 4.4



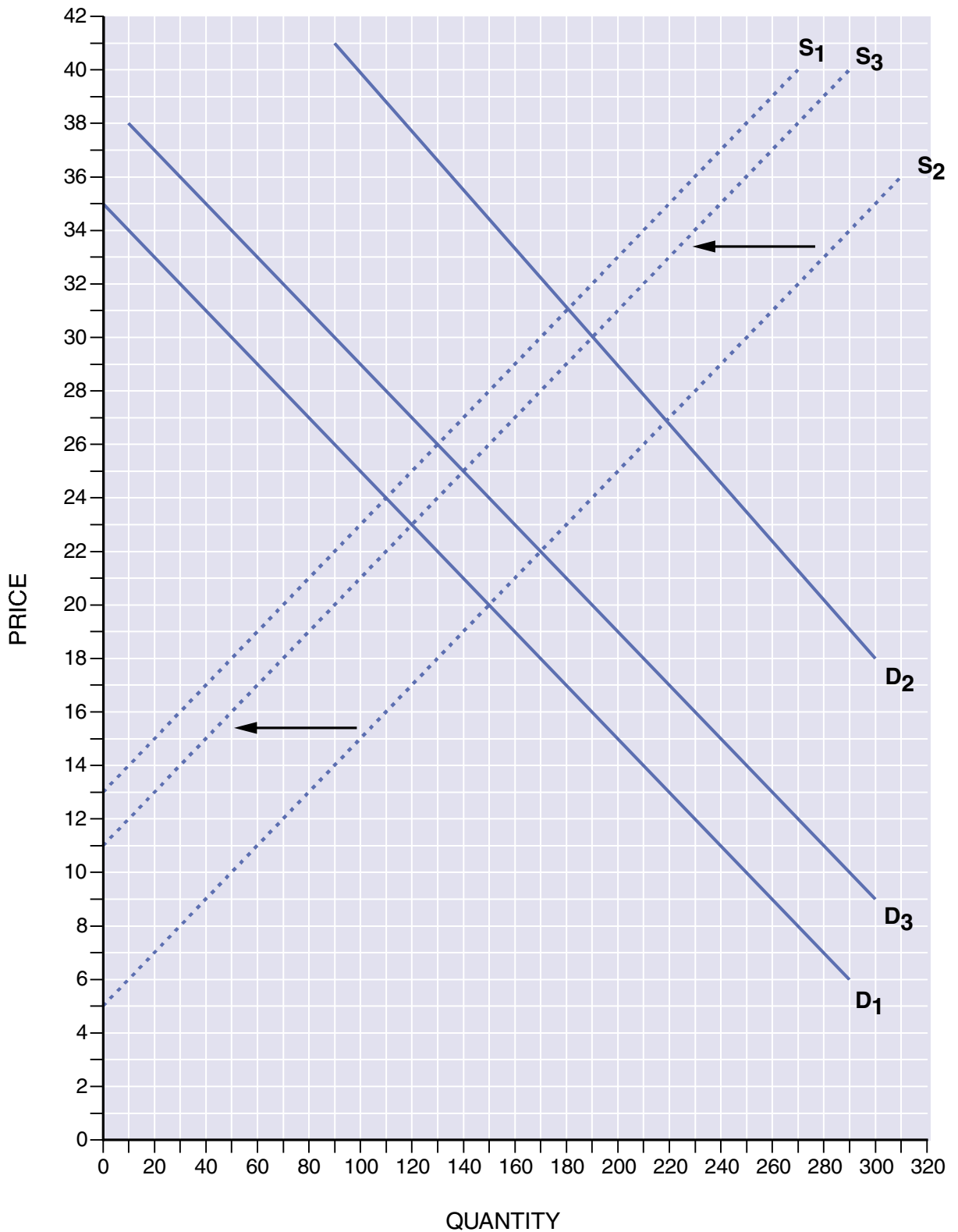
# VISUAL 4.5



# VISUAL 4.6



# VISUAL 4.7



## VISUAL 4.8 ▲ Factors that Cause a Change in Demand and Supply

### Some Factors that Cause a Change in Demand

1. A change in income
2. A change in the prices of related goods
  - a. substitutes
  - b. complements
3. A change in the product's expected future price
4. A change in the number of and/or composition of buyers
5. A change in tastes and preferences

### Some Factors that Cause a Change in Supply

1. A change in the costs of productive inputs
  - a) labor
  - b) machinery and equipment
  - c) energy
  - d) raw materials
2. A change in technology
3. A change in the product's expected future price
4. A change in the number of sellers
5. A random supply shock caused by weather, political events, etc.
6. Legal restrictions such as licensure and regulations



## VISUAL 4.9 ▲ A Real World Application of a Decrease in Demand

### The Pope and the Price of Fish

In the late 1960s, Frederick W. Bell published an interesting study of the effect of a papal decree on the fish market in New England.\* In December 1966, a liberalization of church laws allowed American Catholics to consume meat on Fridays (other than during Lent). Bell hypothesized that this change in church laws would cause a decrease in the demand for fish and would result in a decrease in fish prices and the quantity of fish purchased. After correcting for other factors that could have an outside influence on fish prices, Bell found that fish prices in New England declined on average about 12% following the liberalization.

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\* See Frederick W. Bell, "The Pope and the Price of Fish," *American Economic Review* (December, 1968), p. 1346.