#1: Supply and Demand

Answers:

SD-1) C. Substitution is when the price of a good falls, the consumer buys more of that good (instead of other goods), or when the price of a good rises, the consumer buys less of that good (buying other goods instead).

SD-2) B. A movement along a demand curve is a change in quantity demanded caused by a change in price. As price rises, quantity demanded falls.

SD-3) B. The substitution effect and income effect are the two reasons people will buy less of a good as its price rises (or more of a good as its price falls).

SD-4) A. As price rises, people, effectively, have less income, so they’ll buy less of the good.

SD-5) B. As the price of a good rises, substitution says consumers will buy other goods instead of the now more expensive good. Thus, consumers substitute other goods for the more expensive one.

SD-6) E. An increase in the quantity demanded of a good can only be caused by a decrease in the price of the good.

SD-7) C. The lower price of roses does not increase the demand for roses; it increases the quantity demanded.

SD-8) C. Since toothpaste is a normal good, a decrease in income will decrease demand.

SD-9) A. A shift left is a decrease in demand. If the price of golf balls rises, this is an increase in the price of a complementary good that causes demand of playing golf to decrease.

SD-10) C. An increase in technology is a supply factor, not demand.

SD-11) C. Gasoline is a complement to buying a car. A car engine is a resource used to produce cars (people rarely buy a car AND an engine separately).

SD-12) A. If demand increases as income increases, the good is “normal.”

SD-13) B. The good that is most likely to be inferior, where demand decreases as income increases, is a bus.

SD-14) C. It’s the only statement that fits the correct definition and is logically consistent. A substitute good is when the price of that good rises, it increases the demand for the good of concern.

SD-15) E. In order for producers to use the more expensive techniques of production, they require a higher price. That’s why the supply curve slopes up.

SD-16) C. As price increases, you move to the right along a supply curve so there’s an increase in quantity supplied.

SD-17) D. A higher price of the good increases quantity supplied, not supply.

SD-18) A. Increase in number of firms.

SD-19) D. A shift left is a decrease in supply which would be caused by higher cost of resources.

SD-20) B. Graphite is a resource used to produce pencils. A change in the price of a resource would change supply.

SD-21) C. When there’s an excess of demand, or a shortage, price will rise to eliminate the shortage.

SD-22) C. Price falls to eliminate a potential surplus of goods.

SD-23) D. Price does not need to rise or fall. This price isn’t best for consumers (they’d want lower prices) or best for producers (they’d want higher prices). And the market adjusts the price without government intervention.

SD-24) A. An increase in demand raises both price and quantity.

SD-25) E. If price is high, then it’s caused by large demand or small supply. But a large demand would cause a large quantity sold. To have a high price and small quantity, there would need to be a small supply.

SD-26) D. An increase in supply would reduce price and get people to buy more of the good (increase in quantity demanded).

SD-27) A. If there’s an increase in the price of a substitute, then there’s an increase in demand for the good. With an increase in demand, price and quantity rise.

SD-28) E. With an increase in income, the demand for an inferior good will decrease. This causes price and quantity to fall.

SD-29) A. An increase in demand causes a potential shortage, which raises price, which increases quantity supplied which increases quantity.

SD-30) D. A decrease in supply drives price up and quantity demanded down.
SD-31) A. Moving from C to B, we move to a new supply curve to the right (increase in supply) and we move to a new demand curve to the right (increase in demand).

SD-32) B. Moving from D to C we move to a new demand curve to the left (decrease in demand) but move along a single supply curve to the left (decrease in quantity supplied).

SD-33) D. Moving from D to C is a decrease in demand, this would be caused by a decrease in the price of substitute goods.

SD-34) C. Moving from C to A we move to a new supply curve to the right (increase in supply) and move along a demand curve to the right (increase in quantity demanded).

SD-35) E. Moving from C to A is an increase in supply. All of the answers a to d would cause an increase in supply.

SD-36) D. Moving from A to D we move to a new supply curve to the left (decrease in supply) and a new demand curve to the right (increase in demand).

SD-37) D. Cotton is a resource to a bag of socks. With the drop in the price of cotton, there will be an increase in supply. An increase in supply causes price of socks to fall, and an increase in quantity.

SD-38) D. An increase cost of resources

SD-39) A. Decrease in the price of a complement

SD-40) A. Increase in population or change in tastes (demographic shifts) – either one is okay

SD-41) E.

SD-42) C. Decrease in the price of a substitute

SD-43) B. Increase in number of firms or firm capacity

SD-44) A. An increase in demand increases price and quantity

SD-45) A. An increase in demand increases price and quantity

SD-46) B. A decrease in supply increases price and decreases quantity

SD-47) D. A decrease in demand decreases price and quantity

SD-48) C. An increase in supply decreases price and increases quantity

SD-49) E.

SD-50) A. An increase in demand will increase quantity supplied

SD-51) D.

SD-52) A. An increase in demand will increase quantity supplied

SD-53) C.

SD-54) B. A decrease in demand will decrease quantity supplied

SD-55) B. The decrease in supply will create a potential shortage and raise price

SD-56) B. The increase in demand creates a potential shortage and raises price

SD-57) C. The decrease in demand creates a potential surplus and lowers price

SD-58) C. The increase in supply creates a potential surplus and lowers price.

SD-59) B. PDA’s are substitutes. So as the price of a substitute falls, the demand for the good, Day-Planners, decreases.

SD-60) D. With a decrease in demand, price and quantity fall.

SD-61) D. A decrease in demand drives down price, and quantity supplied decreases in response.

SD-62) C. Printing is an input or resource in production. If the cost of it falls, supply increases

SD-63) C. An increase in supply will drive down price and increase quantity

SD-64) A. An increase in supply causes price to fall which increases quantity demanded

SD-65) A. Refills are complements to Day-Planners. As the price of complements falls, the demand for the good, Day-Planners, will rise.

SD-66) A. An increase in demand pushes up price and quantity.

SD-67) C. With an increase in demand, price rises which causes an increase in quantity supplied.

SD-68) C. If diary prices fall, firms won’t want to produce those, so they’ll produce more Day-Planners.

SD-69) C. As the price of one good goes up (or down), the demand for the other goes up (or down) which means the cross-price elasticity is a positive number.

SD-70) B. An increase in the price of a complement would decrease demand. All the others are increases in demand
SD-71) B. An increase in price, increase in quantity, and potential shortage all occur when there’s an increase in demand. So an increase in supply does not belong.

SD-72) A. Answers b through e are all things that would increase supply. So the increase in demand is the one that doesn’t belong.

SD-73) C. Complements, substitutes, income, and information are all things that when they change, demand changes. Inputs or resources effect supply, not demand.

SD-74) D. If there’s a decrease in the cost of resources (a), that increases supply (c), which creates a potential surplus (e) which decreases price (b). There’s an increase in quantity, not a decrease, so decrease in quantity doesn’t belong.

SD-75) A. Answers b through e all cause supply to increase. An increase in the cost of resources causes supply to decrease so it doesn’t belong.

SD-76) E. A decrease in the price of a substitute good (c), causes a decrease in demand (a), which decreases quantity (d) and decreases price (b). Price falls because with the lack of demand, there’s a potential surplus. So the potential shortage (e) doesn’t belong.
#2: Causes of Changes in Supply and Demand

Answers:

SD_C-1) Up
SD_C-2) Down
SD_C-3) Normal
SD_C-4) Inferior
SD_C-5) Up
SD_C-6) Tastes or Preferences
SD_C-7) Number of Buyers or Population
SD_C-8) Information
SD_C-9) Down
SD_C-10) Up
SD_C-11) Inferior
SD_C-12) Normal
SD_C-13) Down
SD_C-14) Tastes or Preferences
SD_C-15) Number of Buyers or Population
SD_C-16) Information
SD_C-17) Down
SD_C-18) Firms or Producers
SD_C-19) Up
SD_C-20) Down
SD_C-21) Down
SD_C-22) Up
SD_C-23) Firms or Producers
SD_C-24) Down
SD_C-25) Up
SD_C-26) Up
SD_C-27) Up, normal
SD_C-28) Entered the industry, began flying from San Jose to San Diego
SD_C-29) Down (lower cost of resources)
SD_C-30) Down (lower price of a complement)
SD_C-31) Down
SD_C-32) Up. With the higher price of flights to Denver, an airline would prefer to fly San Jose to Denver would reduce flights (and thus supply) from San Jose to San Diego.
SD_C-33) Down. If consumers think the price of travel will be cheaper in the future, they’ll postpone purchases now and thus demand goes down.
SD_C-34) Supply, Increase
SD_C-35) Demand, Increase (La Jolla is in the suburbs of San Diego)
SD_C-36) Supply, Increase (increase in firm capacity)
SD_C-37) Demand, Decrease. Gasoline affects the cost of driving to San Diego, a substitute to flying to San Diego.
#3: The Effects of a Change in Supply or Demand

Answers:

SD_Ef-1) An increase in demand will raise price and quantity, and suppliers will increase production in reaction to the higher price which is an increase in quantity supplied. Finally, the price rose because with the increase in demand, there’s a potential shortage. Answers are: h, i, k, n.

SD_Ef-2) An increase in supply will drive the price lower while increasing quantity. The lower price will get consumers to buy more which is an increase in quantity demanded. Finally, the price fell because with the increase in supply, there’s a potential surplus. Answer are: d, j, k, m

SD_Ef-3) The opposite of question 1: f, j, l, m

SD_Ef-4) The opposite of question 2: b, i, l, n

SD_Ef-5) The Supply curve is moving to the right, so this is an increase in supply. a: price falls, b: quantity increases, c: increase in quantity demanded, d: increase in supply

SD_Ef-6) The Demand curve is moving to the right, so this is an increase in demand. a: price rises, b: quantity increases, c: increase in quantity supplied, d: increase in demand

SD_Ef-7) The Supply curve is moving to the left, so this is a decrease in supply. a: price rises, b: quantity decreases, c: decrease in quantity demanded, d: decrease in supply.

SD_Ef-8) The Demand curve is moving to the left, so this is a decrease in demand. a: price falls, b: quantity decreases, c: decrease in quantity supplied, d: decrease in demand
#4 “Double Shifts”

Answers:

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Note: A “?” means indeterminate – we can’t predict whether it moves up, down, or stays the same.

Pattern: When Supply and Demand move in the same direction, quantity moves in that direction and price is indeterminate. When Supply and Demand move in opposite directions, it’s price you know and quantity is indeterminate.

DS-1) c. The decrease in the price of a substitute will lower demand for cell phones. Lower cost of production will increase supply. If demand decreases and supply increases, then price falls and quantity is indeterminate.

DS-2) e. The decrease in the price of a complement will increase demand. More firms will increase supply. If demand increases and supply increases, quantity will increase and price is indeterminate.

Draw an increase in supply and an increase in demand where price rises.

Draw an increase in supply and an increase in demand where price falls.

DS-3) d. Fewer firms decrease supply. With a drop in income, demand decreases (this assumes cell phones are a normal good). With a decrease in supply and a decrease in demand, quantity will decrease and price is indeterminate.

DS-4) c. Beneficial information will increase demand. Increase in productivity will increase supply. An increase in demand and supply will increase quantity but price is indeterminate.
#5: Government Price Controls

**Answers:**

PC-1) D. the curves meet at $8 and 12 goods

PC-2) C. If demand is $D^1$ and price is $7, quantity demanded is 14. If supply is $S^2$ and price is $7, quantity supplied is 22. That means there’s an excess of supply of 8 goods, or a surplus of 8.

PC-3) D. $D^1$ to $D^2$ is a decrease in demand. It would be caused by an increase in the price of a complement.

PC-4) E. The equilibrium price is $3. A government law that says price cannot be above $5 would have no effect.

PC-5) C. If demand is $D^1$ and price is $5, quantity demanded is 18. If supply is $S^1$ and price is $5, quantity supplied is 6. That means there’s an excess of quantity demanded or a shortage of 12.

PC-6) D. If demand is $D^2$ and price is $2, quantity demanded is 16. If supply is $S^2$ and price is $2, quantity supplied is 12. That means there’s an excess of quantity demanded or a shortage of 4.

PC-7) C. If supply shifts from $S^2$ to $S^1$, this is a decrease in supply. This creates a potential shortage and price will rise in response.

PC-8) C. A price ceiling is when the government passes a law that says the price of a particular good can not go above a certain amount, the “ceiling.”

PC-9) A. A price ceiling says it is illegal to go above the ceiling. If the market equilibrium price is below the ceiling, the market price equilibrium price is legal and will prevail. So the market will be in equilibrium

PC-10) D. To be an “effective” ceiling, the ceiling needs to be below the equilibrium price.

PC-11) A. If the price is below the equilibrium level then quantity demanded is greater than quantity supplied. There is excess demand and a shortage.

PC-12) B. If the government sets a price below equilibrium level, this reduces the quantity supplied, so there are fewer books produced.

PC-13) E. A price floor is a law that does not allow a price to fall below the “floor.” If the floor is set above the equilibrium level, there will be an increase in quantity supplied and a decrease in quantity demanded with a resulting surplus of goods, or excess supply.
#6: Consumer Surplus, Producer Surplus, and Efficiency

**Answers:**

Eff-1) A. Consumer surplus is the difference between the most a consumer will pay ($20) and how much they do pay (price, $15).

Eff-2) B. Producer surplus is the difference between the lowest a firm will accept to produce and sell the good, it’s marginal cost ($8), and the price the firm actually receives ($15).

Eff-3) C. The consumer is willing to pay only $9 for the good. The good sells for $12. The consumer won’t buy the good so there is no consumer surplus.

Eff-4) C. “Margin” refers to “one more”. So the marginal benefit is the benefit of consumer one more good (the next good).

Eff-5) B. The demand curve reflects the marginal benefit to buyers.

Eff-6) A. Marginal cost is the cost of making one more. A firm will not accept an amount less than the marginal cost. A firm needs to be paid at least enough the cost of making that one more (marginal) good.

Eff-7) C. In graphic form, the Consumer Surplus is the area between the demand curve (marginal benefit) and the price line (P²).

Eff-8) D. In graphic form, the Producer Surplus is the area between the supply curve (marginal cost) and the price line (P²).

Eff-9) E. If price is P¹, consumers will only buy Q¹, so the area between price and the demand curve is area E.

Eff-10) C. This the area between price and the supply curve, but only up to quantity Q¹.

Eff-11) A. At P², economic surplus is B+D+E and A+C (see questions 7 & 8). At P¹, economic surplus is E and B+C. This means the economy lost A & D. This is the deadweight loss.

Eff-12) E. Note: Supply = Demand is efficient under normal conditions.

Eff-13) C. An efficient economy is one that maximizes the combination of both producer and consumer surplus.

Eff-14) D. Total economic surplus is maximized where supply and demand meet at the competitive equilibrium, P² & Q².

Eff-15) D. Competitive equilibriums under normal circumstances will be economically efficient. This means the combination of producer and consumer surplus is maximized. It doesn’t mean either one of those is maximized – only the total is maximized.

Eff-16) A. Price controls create inefficiency and move the economy away from a competitive equilibrium which is efficient. When the economy is inefficient, there is a deadweight loss.

Eff-17) C. Some consumers will benefit from the lower price. But other consumers will be harmed by the reduction in production (firms will make fewer goods in reaction to the lower price).

Eff-18) B. Competitive equilibriums are efficient unless there’s an externality

Eff-19) C. It’s a definition

Eff-20) C. Competitive market equilibriums are efficient (with the exception of an externality) which means Economic Surplus is maximized.

Eff-21) d. The bottom of consumer surplus is price.

Eff-22) a. The supply curve represents marginal cost which is the least producers will accept to supply the good.

Eff-23) b. The right side of consumer surplus is quantity consumed. This is often where price intersects demand (answer d), but not always. For example, with an effective price ceiling which creates a shortage, quantity will be less than where the price ceiling intersects the demand curve.

Eff-24) d. The marginal opportunity cost of not going to the game is $150 (this is what the instructor loses). The price is $375. So the producer surplus is $375-$150 = $225

Eff-25) b. The most the fan is willing to pay $400. The price is $375. Consumer Surplus = $400 - $375 = $25

Eff-26) c. From the previous two questions, we know the producer and consumer surplus are $225 & $25, so economic surplus is $250

Eff-27) c. The answer is the same as the previous question. Because the sale price is $100 lower, the consumer surplus is $100 more ($400 - $275). The producer surplus is $100 less ($275 - $150). So the total stays the same.

Eff-28) b. We know that economic surplus can increase (by $250) if the instructor sells the ticket to the fan. If the government prevents, then the government prevents the maximization of economic surplus which prevents a more efficient economy.

Eff-29) d. It’s the area between the demand curve and the price line all the way to the quantity (Q³)

Eff-30) c. This is like the previous question, but you only go to quantity Q² which means you don’t include area F.

Eff-31) b. Again, the area between the price line (now P³) and the demand curve up to Q².
Eff-32) a. Like the previous questions but using a higher price and smaller quantity so the only area between the price line and the demand curve is area A.
#7: Elasticity Formula: Doing the Math

Answers:

Frm-1) \( a = \frac{40\%}{15\%} = \frac{8}{3} = 2.67 \)
Frm-2) \( a = \frac{2}{5} \text{ divided by } \frac{3}{4} = \frac{2}{5} \times \frac{4}{3} = \frac{8}{15} \)
Frm-3) \( b = a \times c = -3 \times -8\% = +24\% \)
Frm-4) \( b = -1.5 \times 12\% = -18\% \)
Frm-5) \( c = \frac{b}{a} = -15\% / -3 = +5\% \)
Frm-6) \( c = 20\% / -0.8 = -25\% \)

Frm-7) \( \varepsilon_D = \frac{-24\%}{18\%} = \frac{-4}{3} = -1.33 \)
Frm-8) \( \varepsilon_D = \frac{3}{7} \text{ divided by } \frac{-6}{11} = \frac{3}{7} \times \frac{-11}{6} = -11/14 \)
Frm-9) \( \varepsilon_D = \frac{-4/5}{2/3} = \frac{-8}{15} \)
Frm-10) \( %\Delta Q_D = -2 \times 6.5\% = -13\% \)
Frm-11) \( %\Delta Q_D = -1/7 \times 30\% = -30\% / 7 = -4.29\% \)
Frm-12) \( %\Delta Q_D = -1.4 \times -20\% = 28\% \)
Frm-13) \( %\Delta P = -15\% / -5 = 3\% \)
Frm-14) \( %\Delta P = \frac{11\%}{-0.5} = 11\% \times -2 = -22\% \)
Frm-15) \( %\Delta Q_D = -2.5 \times -5\% = 12.5\%. \) So Quantity Demanded rises by 12.5%

Frm-16) \( \varepsilon_I = \frac{6\%}{-4\%} = -1.5 \)
Frm-17) \( \varepsilon_I = \frac{3}{8} \text{ divided by } \frac{1}{4} = \frac{3}{8} \times \frac{4}{1} = 3/2 = 1.5 \)
Frm-18) \( \varepsilon_I = 1 2/5 \text{ divided by } 1 1/4 = \frac{7}{5} \text{ divided by } \frac{5}{4} = \frac{7}{5} \times \frac{4}{5} = 28/25 = 1 3/25 \)
Frm-19) \( %\Delta Q = 1.3 \times 4\% = 5.2\% \)
Frm-20) \( %\Delta Q = 0.75 \times -8\% = -6\% \)
Frm-21) \( %\Delta I = -15\% / 2 = -7.5\% \)
Frm-22) \( %\Delta I = 3.5\% / -5 = 3.5\% \times -2 = -7\% \)
Frm-23) \( %\Delta Q = 10\% \times .78 = 7.8\% \)

Frm-24) \( \Delta P = 4. \) Average P = 8. So, \( %\Delta P = 4/8 = 1/2 = 50\% \)
Frm-25) \( \Delta Q = -8. \) Average Q = 44. So, \( %\Delta Q = -8 / 44 = -2/11 = -.18 \)
#8: Elasticity

**Answers:**

El-1) D. All elasticities are percentage change over percentage change with percentage change in quantity always going on top.

El-2) B. Elasticity measures how much quantity demanded changes when price changes. This is not the same as slope since it’s a percentage change. And it’s a movement along the demand curve, so it’s not a change in demand.

El-3) E. Quantity demanded moves 2% for a 1% change in price. Since price goes up by 4%, quantity demanded must go down by 8%

El-4) C. Quantity demanded moves 1% for a 6% change in price.

El-5) B. Quantity demanded moves 3% for a 1% change in price. To decrease quantity demanded by 9%, price must rise by 3%

El-6) B. \( \%\Delta Q = \frac{20}{60} = \frac{1}{3} \). \( \%\Delta P = \frac{-2}{4} = -\frac{1}{2} \). \( E_D = \frac{1}{3} \) divided by \(-\frac{1}{2} = -\frac{1}{3} \times 2/1 = -\frac{2}{3} \)

El-7) D. If price elasticity of demand is greater than one, demand is elastic and people are sensitive to price changes. So small price changes lead to large quantity demanded changes.

El-8) E. If quantity demanded changes very little when price changes, demand is inelastic. A, B, C, and D are all characteristics of inelastic demand

El-9) A. With an increase in supply, price will fall and quantity will increase. Since demand is inelastic, the quantity increase will be small, and the price drop will be large.

El-10) C. With an increase in the cost of resources, supply decreases which makes price go up and quantity go down. Since demand is inelastic, the price increase will be small and the quantity decrease will be large.

El-11) A. A horizontal demand sets the price.

El-12) D. D4 is very elastic (very flat) but not perfectly flat (perfectly elastic).

El-13) A. D1 is perfectly inelastic and does not exist over a wide range of prices. If you raise price enough, people will start to buy less for the simple reason they can’t afford it.

El-14) B. D2 is very inelastic (but not perfectly inelastic) which is what the demand for gasoline is.

El-15) D. The demand for Exxon gasoline is very elastic (lots of close substitutes). It probably isn’t perfectly elastic because Exxon can still raise or lower the price of their gas (but not others’) a little bit.

El-16) E. A perfectly elastic demand curve is one that is perfectly flat.

El-17) E. With D5, as supply changes, equilibrium price doesn’t change at all. The demand curve sets the price.

El-18) E. With D5, changes in production wouldn’t affect price, so the firm would be a price taker.

El-19) D. As price increases, quantity demanded falls. Since demand is elastic, as price increases total revenue falls.

El-20) C. If price goes down and total revenue rises we know demand is elastic.

El-21) A. If price (fees) falls, then quantity demanded will rise. Since demand is inelastic, total revenue (to the state) will fall.

El-22) D. If a good takes a small part of the consumer’s budget, the demand will tend to be inelastic.

El-23) E. With fewer available substitutes (like gasoline or insulin), demand will be inelastic.

El-24) C. There are many substitutes to Exxon gasoline (other brands), so demand will be elastic, not inelastic.

El-25) A. Oakland Athletics have the most substitutes: other baseball games, other sporting events, other entertainment events.

El-26) E. Model 3GS iPhones are only one part of the broader iPhone market. iPhones are part of the broader smart phone market which is part of the broader cell phone market and even broader telephone market.

El-27) A. Demand becomes more elastic as you define the market for narrowly. So model 3GS iPhones would be the most elastic (you could buy another iPhone, or another smart phone, or another cell phone, or another telephone – lots of substitutes. And the most inelastic would be telephones.

El-28) Using the rule of relative importance in the budget, an ice cream cone would be most inelastic.

El-29) B. If a consumer spends very little of their income on a good (takes up a small piece of their budget) then that consumer will be less sensitive to price changes.
El-30) C. Without close substitutes in the minds of many consumers, demand for I-Pods will be more inelastic.

El-31) E. Negative cross price means as the price of one good goes up, the demand for the other good goes down. If consumers don’t buy the more expensive good, they don’t want to buy the other good either. The goods go together, they are complements.

El-32) B. Goods that have a positive cross price elasticity are substitutes like Coke and Pepsi

El-33) D. %ΔQx = -100/350 = -2/7. %ΔPy = 4/12 = 1/3. So cross price elasticity = -2/7 divided by 1/3 = - 2/7 * 3/1 = -6/7.

El-34) C. Since the cross price elasticity in the last question is negative, the two goods are complements

El-35) D. When income elasticity is positive (greater than zero), then as income increases, demand increases. That describes a normal good.

El-36) C. When income elasticity is less than 1, but positive, it’s called a “necessity.” This means as income rises, people will buy a little more of the good.

El-37) B. A luxury is a good for which consumers increase their purchases faster than their income increases. If income rises 10%, people will increase their demand MORE than 10%. That is, income elasticity is greater than 1.

El-38) A. City bus transportation is most likely the inferior good with an income elasticity that is negative.

El-39) D. %ΔQ = 4/8 = 1/2. %ΔI = 10/25 = 2/5. So income elasticity is 1/2 divided by 2/5 = 1/2 * 5/2 = 5/4 = 1.25

El-40) D. Since as income increased, demand increased and therefore income elasticity is positive, the good is normal. But since the income elasticity is greater than 1, the good is also a luxury.

El-41) C. With an income elasticity of -2, as income increases 1%, demand decreases by 2%. So if income rises by 6%, demand must decrease twice as much, by 12%

El-42) B. A “necessity” is a good with an income elasticity less than 1. That means as income rises by a certain percentage, demand for the good rises by less than that percentage.

El-43) D. As income falls, the demand for an inferior good increases.

El-44) C. It doesn’t matter how high or low price goes, there will be no change in the supply of Picasso paintings.

El-45) B. If demand increases, price rises and quantity rises. Since supply is elastic, price will change a little while quantity changes a lot.

El-46) A. If the supply curve is perfectly elastic (horizontal), an increase in demand will cause quantity to rise but won’t affect price. The supply curve sets the price.
For next set of scenarios, use the following answers to describe what happens. All questions concern the market for Blenders, a normal good. An answer may be used more than once, and not all answers may be used:

a. There’s an increase in price and quantity
b. There’s an increase in price and a decrease in quantity
c. There’s a decrease in price and an increase in quantity
d. There’s a decrease in price and quantity
e. There’s almost certainly no change in price or quantity

Note: answer “a” above can ONLY be caused by an increase in Demand “b” can only be caused by a decrease in Supply. “c” can only be caused by an increase in Supply. And “d” can only be caused by a decrease in demand

1) There’s an increase in income: __A__
2) The price of food processors fall: __D__
3) The price of electric motors rises: __B__
4) Apple begins making blenders: __C__
5) There are more weddings: __A__

For next set of scenarios, use the following answers to describe what happens. All questions concern the market for Blenders. An answer may be used more than once, and not all answers may be used:

a. There’s an increase in supply
b. There’s a decrease in supply
c. There’s an increase in quantity supply
d. There’s a decrease in quantity supply
e. There’s no change

Note: answer “c” above can ONLY be caused by an increase in Demand “b” can only be caused by a decrease in Supply. “e” can only be caused by an increase in Supply. And “d” can only be caused by a decrease in demand

11) There’s an increase in income: __C__
12) The price of food processors fall: __D__
13) The price of electric motors rises: __B__
14) Apple begins making blenders: __A__
15) There are more weddings: __C__

For next set of scenarios, use the following answers to describe what happens. All questions concern the market for Blenders. An answer may be used more than once, and not all answers may be used:

6) There’s an increase in income: __A__
7) The price of food processors fall: __C__
8) The price of electric motors rises: __D__
9) Apple begins making blenders: __B__
10) There are more weddings: __A__

Note: B to D is an increase in supply

16) Using Figure 1, what would cause a movement from B to D:

- The price of food processors fall
- The price of electric motors rises
- Apple begins making blenders
- There are more weddings

Note: B to D is an increase in supply

17) Using Figure 1, what would cause a movement from A to B:

- The price of food processors fall
- The price of electric motors rises
- Apple begins making blenders
- There are more weddings

Note: A to B is an increase in demand
#10 Efficiency Examples

**Intro:** To the left is a graph depicting the perfectly competitive Market for Whole Wheat Flour.

Label the Consumer and Producer Surplus in the graph.

What are the estimated $ values of each?

\[
\text{CS} = \frac{1}{2} \times 2 \times 500 = 500 \\
\text{PS} = \frac{1}{2} \times 2.5 \times 500 = 625
\]

What is the estimated $ value of the Economic Surplus of this market?

\[
\text{ES} = 500 + 625 = 1125
\]

**Scenario A:**
A Bakers’ advocacy group, “Lobbyists for Fair Flour”, convince the government that the market price of wheat is too high and must not go above $2.

Show the effects of this law on the graph.

*Quantity is reduced to 300 bags and price is $2*

Who does this law help?
Consumers, their CS probably goes up

Who does this law harm?
Producers, their PS definitely goes down

What effect does this law have on efficiency?
Reduces it. There’s a deadweight loss (DWL)

**Scenario B** (unrelated to Scenario A):
The incomes of flour consumers go down (assume flour is a normal good). As a result, the new quantity in the market is 350 bags.

Show the effects of this event on the graph.

Label the new Consumer and Producer Surplus.

What effect does this event have on efficiency?
None. ES is at a new, smaller, maximum, but there is no DWL
**Scenario C** (unrelated to Scenario A or B):  
Several large farming corporations switch crops and are now growing corn. As a result, the new price of wheat is $4 a bag.

Show the effects of this event on the graph.

Label the new Consumer and Producer Surplus.

What effect does this event have on efficiency?  
**None.** ES is a **new, smaller, maximum**, but there is no DWL

**Scenario D** (unrelated to any Scenario above):  
The government passes a new law to support the price of wheat which sets a Price Floor of $4. Producers agree not to produce more than demand so there is no surplus.

Show the effects of this law on the graph.

Who does this law help?  
**Producers.** Their PS probably increases.

Who does this law harm?  
**Consumers.** Their CS definitely decreases.

What effect does this law have on efficiency?  
**Reduces it.** There’s a deadweight loss (DWL)

**Scenario E:**  
Scenario’s C & D occur. A price floor of $4 is passed by the government AND firms exit the industry to raise the equilibrium price of flour to $4.

Show the effects of the rise in wheat price on the graph.

What effect does the collusion have upon efficiency in this scenario?  
**None.** The price floor is ineffective since the equilibrium price is also $4. So, this scenario is the same as C where there is no DWL.
#11 Determinants of Elasticity

Use the graphs on the right to fill in the blanks on the following statements:

_\text{D}_1^1_ is the demand curve for a good with many substitutes, while _\text{D}_2^2_ is the demand curve for a good with few substitutes.

_\text{D}_1^2_ is the demand curve for a good which is a necessity, while _\text{D}_1^1_ is the demand curve for a good which is a luxury.

_\text{D}_1^1_ is the demand curve for a good which takes up a large portion of a consumer's budget, while _\text{D}_2^2_ is the demand curve for a good which takes up a small portion of a consumer's budget.

_\text{D}_1^1_ is the demand curve for when consumers have a long time to adjust to a price change, while _\text{D}_2^2_ is the demand curve for when consumers have only a short time to react to a price change.

_\text{D}_1^1_ is the demand curve where as price increases, total revenue decreases, while _\text{D}_2^2_ is the demand curve where as price increases, total revenue also increases.

_\text{D}_1^3_ is a perfectly elastic curve, while _\text{D}_1^4_ is a perfectly inelastic curve.

_\text{D}_1^4_ indicates the demand curve for a lifesaving drug, which patients need a fixed amount of (over a limited range of prices), while _\text{D}_1^3_ indicates the demand curve for an individual farmer's apples at a farmers' market.

_\text{S}_1^1_ is the supply curve for beachfront property, while _\text{S}_2^2_ is the supply curve for canned chicken soup.

_\text{S}_1^2_ is the supply curve for when suppliers have a long time to adjust to a price change, while _\text{S}_2^1_ is the supply curve for when suppliers have only a short time to react to a price change.

_\text{D}_1^1_ is the demand curve for diamonds, while _\text{D}_2^2_ is the demand curve for water. Why? **Because diamonds are a luxury while water is a necessity**

_\text{D}_1^2_ is the demand curve for gasoline, while _\text{D}_1^1_ is the demand curve for Froot Loops cereal. Why? **Because gasoline have few substitutes while Froot Loops have many available substitutes**

_\text{D}_1^3_ is the demand curve for paper clips, while _\text{D}_1^1_ is the demand curve for cars. Why? **Because paper clips take only a small part of a consumer’s budget while a car takes a large fraction**

_\text{D}_1^1_ is the demand curve for Bread, while _\text{D}_2^2_ is the demand curve for food in general. Why? **Because food is a broadly defined market and has few substitutes while bread has more substitutes because it’s a more narrowly defined market**