

Answer Key: Supply, Demand, and Market Equilibrium

Course: Economics (Free Enterprise) **Grades:** 9–12 **For teacher use only** Social Studies

How to use this key

Answers are grouped by section and question number. Several items are open-ended; accept any response that shows correct reasoning even if the wording differs. Notes flag where more than one answer is defensible and list common misconceptions to watch for. Everything students need is in the packet, so answers should draw on the graph (Figure 1) and the price schedule (Table 1) only. Items marked **[BLOCK]** apply only to the ~90-minute version. Estimated grading time: ~6–8 min per packet.

Start Warm Up grade for effort · ~1 min

1 Buyer: price up → buy more or less?

Less is the intended answer (law of demand). Accept any sensible reason: "it costs more so I'd cut back," "I'd look for a substitute," "I can afford less." Warm-up — graded for effort.

2 Seller: higher price → offer more or less?

More is the intended answer (law of supply). Accept any sensible reason: "I'd make more money per unit," "it's worth producing more," "higher price is an incentive to sell more." Graded for effort.

Build Read the Reference ~1 min

3 Which line slopes down / up?

Downward line = demand (as price rises, quantity demanded falls). **Upward line = supply** (as price rises, quantity supplied rises). In Figure 1 the dashed line is demand and the solid line is supply.

Apply Read the Market ~3–4 min

4 Read equilibrium off the graph.

Equilibrium price = \$6; equilibrium quantity = 60 units. This is where the dashed demand line and the solid supply line cross in Figure 1 (the circled point, with dotted guides to \$6 and to 60).

5 Read equilibrium off the table.

Price = \$6, Quantity = 60. This is the one row where quantity demanded (60) **equals** quantity supplied (60). Full credit for identifying that the equilibrium is the row where the two quantities match (no shortage and no surplus). The graph and table agree.

6 Fill the shortage/surplus column; gap at \$4.

Completed last column of Table 1:

\$2 → shortage (demand 100 > supply 20; gap 80).

\$4 → shortage (demand 80 > supply 40; gap 40).

\$6 → equilibrium ($60 = 60$; neither).

\$8 → surplus (supply 80 > demand 40; gap 40).

\$10 → surplus (supply 100 > demand 20; gap 80).

At \$4: a shortage of 40 units ($80 - 40 = 40$). Below-equilibrium prices give shortages; above-equilibrium prices give surpluses.

7 Predict a demand increase.

Equilibrium price: rises. Equilibrium quantity: rises. When demand increases the whole demand line shifts to the *right*, so it now crosses the upward supply line at a **higher price and a higher quantity**. Explanation credit for any correct link: at the old price buyers now want more than sellers offer (a temporary shortage), which bids the price up and draws out more quantity supplied until a new equilibrium is reached.

8 Fact (F) / Opinion (O).

a) **F** — checkable in Table 1 / Figure 1 (\$6 row: $60 = 60$).

b) **F** — checkable in Table 1 (\$2 row: 100 vs 20 is a shortage).

c) **O** — "fair" and "everyone should be happy" is a value judgment, not checkable.

d) **O** — "best thing anyone could ever spend money on" is a personal preference.

Fact = checkable against the data; opinion = a personal belief, preference, or value judgment.

9 Evaluate "raising price always brings in more money."

Correct: B (not always). By the law of demand, a higher price lowers the quantity buyers actually buy, so total money (price $\times$ quantity sold) does not automatically rise. Above equilibrium the extra units become unsold **surplus**. Reject A (ignores that quantity falls) and C (the schedule clearly shows quantity demanded falling as price rises). Explanation must cite the schedule — e.g., at \$6, 60 units sell; at \$10, only 20 units are demanded, so raising the price to \$10 does not simply "bring in more money." (If students compute revenue: $\$6 \times 60 = \360 vs $\$10 \times 20 = \200 at the quantity buyers actually want — a good extension, not required.)

10 Movement along vs. shift of the line.

The classmate is **wrong**. A change in the **good's own price** is only a **movement along** the existing demand line to a different point — it does not move the line. A **shift** of the whole demand line happens only when something *other* than that good's price changes (income, tastes, number of buyers, etc.). Full credit for distinguishing "same line, new point" (movement) from "the whole line relocates" (shift).

Explain CER (Q11) ~2–3 min

11 What happens to equilibrium price when demand rises? (argument)

Claim: when demand rises, the **equilibrium price rises** (and equilibrium quantity rises too).

Sample: "Claim: When demand rises, the equilibrium price goes up. Evidence: In Figure 1 the demand line moves to the right, so it crosses the upward supply line at a higher point; in Table 1 the market clears at \$6/60, but if buyers now want more at every price, the quantity demanded at \$6 exceeds 60. Reasoning: At the old \$6 price there is now a shortage, and a shortage pushes the price up; as price rises, quantity supplied increases along the supply line until a new, higher equilibrium price and quantity are reached."

Defensible alternates: accept reasoning framed through the rightward demand shift, through the temporary shortage at the old price, or through the graph's new crossing point — any is valid if it correctly concludes the price **rises** and cites both the graph and the table. Do *not* give full credit to "price falls," "price stays the same," or an answer that confuses a demand increase with a movement along the curve.

[BLOCK] extended writing: full block credit requires naming that at the *old* equilibrium price there is now a temporary **shortage**, explaining that the shortage bids the price **up** toward the new equilibrium, and stating that the equilibrium **quantity also rises**.

CER scoring rubric (3 points)

Score	Claim	Evidence	Reasoning
3	States clearly that the equilibrium price rises (and ideally quantity rises).	Cites both the graph (rightward shift / new crossing point) and the table.	Explains via a temporary shortage at the old price pushing price up to a new equilibrium; economically sound. (Block: adds the shortage step + quantity result.)
2	Says price rises, mostly clear.	One solid source, or both with a minor error.	Some correct linkage but incomplete or a small slip.
1	Vague, or hedges without committing.	Evidence weak, off-topic, or not from the packet.	Little or flawed reasoning; e.g., confuses shift with movement along the curve.
0	No/incorrect claim (e.g., "price falls").	No evidence.	No reasoning.

Extend Supply-shift scenario (Q12) [BLOCK] • ~1 min

12 [BLOCK] Supply increases (cheaper to produce).

Equilibrium price: falls. Equilibrium quantity: rises. When supply increases the whole supply line shifts to the *right*, crossing the demand line at a lower price and a higher quantity. Reasoning with shortage/surplus: at the old price sellers now offer more than buyers want (a temporary **surplus**), which pushes the price **down**; as price falls, quantity demanded rises along the demand line until the new equilibrium is reached. Accept any answer that reaches "price down, quantity up" via a surplus at the old price. Do not credit "price rises."

Close ACE ~1 min

ACE Articulate / Connect / Extend.

Articulate: accept any accurate plain-language definition (e.g., "equilibrium is the price where the amount buyers want to buy equals the amount sellers want to sell — where the two lines cross; here \$6 and 60 units").

Connect: a **shortage** row is \$2 or \$4 (demand > supply); a **surplus** row is \$8 or \$10 (supply > demand). Grade whether each cited price is correctly labeled.

Extend: any real product with a sensible supply- or demand-based reason (e.g., "concert tickets cost more when a lot of people want them" = demand; "phone prices drop when they're cheaper to make" = supply). More than one answer is defensible; grade the reasoning.

Continue Early finisher (optional)

EF Draw and label a demand-increase shift.

Look for: a downward demand line, an upward supply line, a marked equilibrium, a **second demand line to the right**, and a **new equilibrium up and to the right** of the first. Correct labels: **price up, quantity up**, with a one-sentence reason (the rightward demand shift raises both). Grade the labeling and reasoning, not drawing neatness.

Watch Common misconceptions

- **"Raising price always raises revenue/money" (Q9).** It does not — by the law of demand a higher price lowers the quantity buyers actually buy, so total money can fall and unsold surplus can pile up. Total money depends on *price* $\times$ *quantity sold*, and above equilibrium the quantity sold drops.
- **"A shortage means the item was never made in enough quantity" (Q6).** A shortage is a *price* situation: at a price **below equilibrium**, quantity demanded exceeds quantity supplied. Raise the price toward equilibrium and the shortage disappears — it is not a claim that "not enough was ever produced."
- **Confusing a shift with movement along the curve (Q7, Q10, Q12).** A change in the good's *own price* moves you along the same line (a new point). A change in *something else* (income, tastes, number of buyers, sellers' costs) shifts the whole line. Students often say "the price went up so the line shifted" — that is backwards.
- **Reading the axes backwards.** Price is on the **vertical** axis, quantity on the **horizontal** axis. Equilibrium is read where the lines cross, not at an intercept.
- **Fact vs. opinion (Q8).** "\$6 is fair" or "best purchase ever" are value judgments (opinions); "60 = 60 at \$6" is a checkable fact.

Teacher follow-up based on likely errors

If many students miss Q9, do a quick revenue check with two rows of Table 1 (\$6 $\times$ 60 vs \$10 $\times$ 20) to show that raising the price above equilibrium does not automatically bring in more money. If Q7, Q10, or Q12 reveal shift-vs-movement confusion, re-anchor with a quick "did the good's own price change, or did something else change?" sort. If students treat a shortage as "not enough ever made," reconnect it to the below-equilibrium price rows in Table 1. The highest-value idea to revisit is that a free market tends to move toward equilibrium: below it a shortage pushes price up, above it a surplus pushes price down.

HS_ECON_SupplyDemand_01 — Supply, Demand, and Market Equilibrium Teacher Answer Key