1. Firm in Perfect Competition (Long-Run Equilibrium)

2. Monopoly Industry with comparison of price & output of a Perfectly Competitive Industry

3. Natural Monopoly with Fair-Return and Socially-Optimum Regulation
4. Negative Externality showing that too much is being produced at too low of a price

5. Positive externality showing that too little is being produced at too low of a price

7. Production Possibilities Curve illustrating the concept of opportunity cost

8. MP_L and AP_L (As long as the additional worker (MP_L) is > than the average, AP_L is rising)

9. Perfectly Competitive Labor Market with Total Labor Costs in red and Non-labor Costs in yellow
10. TP (Total Product) with MP and AP curves below to show the stages of production, return rates, and relationship between MP and TP (As long as MP > 0, TP is increasing)
11. Illustration of an effective Price Floor creating a Surplus since \( Q_s > Q_d \)

![Graph showing a surplus due to a price floor.]

12. Illustration of an effective Price Ceiling creating a Shortage since \( Q_d > Q_s \)

![Graph showing a shortage due to a price ceiling.]

13. Market in equilibrium with Consumer surplus shaded in yellow

![Graph showing a market in equilibrium with shaded consumer surplus.]
14. **Illustration of Perfectly Inelastic supply or demand**

![Graph of Perfectly Inelastic Demand](image1)

15. **Illustration of Elastic Demand**

![Graph of Elastic Demand](image2)

16. **Illustration of Inelastic Demand**

![Graph of Inelastic Demand](image3)
17. Illustration of Perfectly Elastic supply or demand

![Diagram showing perfectly elastic supply or demand.]

18. Illustration of a Long-Run Average Total Cost Curve (\( \sum \) ATC curves for various plant sizes)

![Diagram showing long-run average total cost curve.]

19. \( TFC + TVC = TC \)
20. \( TFC / Q = AFC \)
21. \( TVC / Q = AVC \)
22. \( AFC + AVC = ATC \)
23. \( TC / Q = ATC \)
24. \( \Delta TC / \Delta Q = MC \)
25. \( TR / Q = AR \text{ or } P \)
26. \( \sum MP = TP \text{ (Output)} \)
27. \( P \times Q = TR \)
28. \( \Delta TR / \Delta Q = MR \)
29. \( \Delta TP / \Delta L = MP_l \)
30. \( TP / L = AP_l \)
31. \( AR < AVC : \text{Shutdown} \)
32. \( \% \Delta QD / \% \Delta P = E_d \) (Elasticity of Demand) Coefficient
33. \( P = ATC : \text{Fair-Return Regulation (0 Economic Profit or Normal Profit)} \)
34. \( P = MC : \text{Socially-Optimum Price Regulation (Allocative Efficiency)} \)
35. \( P > MC : \text{Underallocation of Resources} \)
36. \( P < MC : \text{Overallocation of Resources} \)
37. \( MU_A / P_A = MU_B / P_B : \text{Equimarginal Rule (Utility Maximization Rule)} \)
38. \( MP_A / P_A = MP_B / P_B : \text{Least-Cost Rule} \)
39. \( MR = MC : \text{Optimal Output Rule} \)
40. \( MRP = MRC : \text{Hiring Rule} \)
41. \( MP \times P = \text{Marginal Revenue Product (MRP)} \)
42. \( MRP_A / P_A = MRP_B / P_B = 1 : \text{Profit-Maximization Rule} \)
43. \( TR – TC = \text{Profit} \)
44. \( P > ATC : \text{Economic Profit} \)
45. \( P < ATC : \text{Economic Loss} \)
46. \( MR < 0 : \text{Demand is inelastic (TR is declining)} \)
47. \( MR > 0 : \text{Demand is elastic (TR is rising)} \)
48. \( MR = 0 : \text{Demand is unit elastic (TR is at a maximum)} \)
49. \( \Delta TR / \Delta \text{Input} = \text{Marginal Revenue Product (MRP)} \)
50. \( \Delta TC / \Delta \text{Input} = \text{Marginal Resource Cost (MRC)} \)
51. \( P = \text{Min ATC} : \) Productive Efficiency
52. \( e_d < 1 : \) Demand is inelastic
53. \( e_d > 1 : \) Demand is elastic
54. \( e_d = 1 : \) Demand is unit elastic
55. \( \Delta \text{ Price} = \) Movement Along the Curve
56. \( \Delta \text{ Non-Price Determinant} = \) Shift of the Curve
57. \( P \) Increases, TR increases : Demand is inelastic
58. \( P \) increases, TR decreases : Demand is elastic
59. \( P \) decreases, TR decreases : Demand is inelastic
60. \( P \) decreases, TR increases : Demand is elastic

**ADDITIONAL THINGS YOU SHOULD KNOW!**

1. Ways for the government to correct positive externalities.
2. Ways for the government to correct negative externalities.
4. Definition of inferior goods.
5. Definition of normal goods.
6. Assumptions of the PPC (Production Possibilities Curve).
7. What would cause the PPC to shift inward and outward.
8. Adam Smith’s view on the nature of the economy and economic growth.
9. Fair-Return vs. Socially-Optimum Return (Which one might require a payment of a subsidy to the firm?).
12. What are variable costs?
15. Determinants of Supply and Demand.
17. How to apply the Least-Cost Rule.
18. What to do when facing a surplus or shortage in order to clear the market (to reach equilibrium).
20. Concepts involving the Production Possibilities Curve.
21. What would cause a firm’s short run cost curves (MC, AVC, and ATC) to shift?
22. Definition of Diminishing Marginal Returns and the point at which it occurs.
23. Definition/Characteristics of Perfect Competition, Monopolistic Competition, Oligopoly, Monopoly, and Monopsony.
24. Why is a monopolistically competitive firm allocatively inefficient in the long run?
25. How to apply the Total Revenue Test.
26. What can happen during the short run?
27. Nominal Wages vs. Real Wages.
28. What are the factor payments for land, labor, Capital, and Entrepreneurship?
29. Definition of Free-Rider and how it applies to public goods.
30. Characteristics of Natural Monopolies.
31. What are some barriers to entry?
32. Why do long run average total costs eventually rise as a firm grows larger?
33. Explain the relationship between Demand and Marginal Revenue for a Monopoly.
34. Allocative and Productive Efficiency in the various market structures.
35. Entry and Exit into various market structures in the long run.

37. How to properly label economic graphs!