A- Multiple Choice Questions (40 %)

1	**A**
2	**B**
3	**D**
4	**B**
5	**A**
6	**C**
7	**B**
8	**B**
9	**A**
10	**D**

11	**D**
12	**C**
13	**C**
14	**C**
15	**C**
16	**C**
17	**D**
18	**C**
19	**D**
20	**D**

B- Problem Solving

Problem # 1 (18 %)

1. Under the old 10% commission structure, how many round-trip tickets must Wembley sell each month to:
   a. break even
   b. earn an operating income of $7,000?

Wembley receives a 10% commission on each ticket: 10% × $900= $90. Thus,
Selling price = $90 per ticket
Variable cost per unit = $20 per ticket
Contribution margin per unit = $90 –$20 = $70 per ticket
Fixed costs = $14,000 per month

$$\text{a. Breakeven number of tickets} = \frac{\text{Fixed costs}}{\text{Contribution margin per unit}} = \frac{\$14{,}000}{\$70 \text{ per ticket}} = 200 \text{ tickets.}$$

b. When target operating income =$7,000 per month,

$$\text{Tickets required to be sold} = \frac{\text{Fixed costs + Target operating Income}}{\text{Contribution margin per unit}}$$

$$= \frac{\$14{,}000 + \$7{,}000}{\$70 \text{ per ticket}} = \frac{\$21{,}000}{\$70 \text{ per ticket}} = 300 \text{ tickets}$$

2. How does United's revised payment schedule affect your answers to (a) and (b) in requirement 1?

Under the new system, Wembley would receive only $50 on the $900 tickets. Thus,

Selling price = $50 per ticket
Variable cost per unit = $20 per ticket
Contribution margin per unit = $50 - $20 = $30 per ticket
Fixed costs = $14,000 per month

a. Breakeven number of tickets $= \frac{\$14,000}{\$30 \text{ per ticket}} = 467$ tickets (rounded up).

b. Tickets required to be sold $= \frac{\$21,000}{\$30 \text{ per ticket}} = 700$ tickets.

The $50 cap on the commission paid per ticket causes the breakeven point to be more than double (from 200 to 467 tickets) and the tickets required to be sold to earn $7,000 per month to also more than double (from 300 to 700 tickets). As would be expected, managers at Wembley reacted very negatively to the United Airlines announcement to change commission payments.

Problem #2 (15%)

a. Compute the payback period.

$$\text{Payback period} = \frac{\text{initial investment}}{\text{annual savings}} = \frac{\$75,000}{\$18,000} = 4.1667 \text{ years}$$

b. Compute the total present value of estimated annual savings.
PV = $A \times PVIFA_{12\%, 7 \text{ years}} = \$18,000 \times 4.5638 = \$82,148$ (rounded)

c. Compute the total present value of estimated residual value.
PV = $\$3,000 \times PVIF_{12\%, 7 \text{ years}} = \$3,000 \times 0.4523 = \$1,357$ (rounded)

d. Compute the total present value of estimated cash inflows.
Total present value (PV) = $82,148 + $1,357 = $83,505

e. Compute the net present value (NPV).
Net present value (NPV) = PV –I = $83,505 –$75,000 = $8,505

Problem #3 (16 %)

1. Profit margin = Net income ÷ Net sales
= $275,000 ÷ $1,400,000
= 19.6%

2. Asset turnover = Net sales ÷ Average assets
= $1,400,000 ÷ $1,700,000
= .82 times

3. Return on assets = Net income ÷ Average assets
= $275,000 ÷ $1,700,000
= 16.2%

4. Return on stockholders' equity $= \dfrac{\text{Net income}}{\text{Average stockholders' equity}}$
   $= \$275{,}000 \div \$1{,}000{,}000$
   $= 27.5\%$

Problem #4 (11 %)

a. Definitions:

+ Risk Averse brief definitions either:

1. Risk averse is the description of an investor who, when faced with two investments with a similar expected return, prefers the one with the lower risk.
2. A risk-averse investor does not like risk and, therefore, stays away from high-risk investments and is prepared to lose higher rates of return.

+ Risk Neutral brief definitions either:

1. Risk neutral is a mindset where an investor is indifferent to risk when making an investment decision.
2. Risk neutral investor places himself in the middle of the risk scale between the risk averse and risk neutral.
3. Given two investment opportunities, for example, a risk-neutral investor only looks at the potential gains of each investment, and ignores the potential downside risk.
4. Risk neutral is only concerned about the expected return.
5. A risk-neutral person looks pragmatically at the potential benefits of starting a company, and if the expected payoff is high enough, he chooses to start the business and ignores the multitude of risks.

+ Risk Taker brief definitions either:

1. Risk taker accepts greater volatility & uncertainty in investments.
2. Is willing to take higher risk for a giver return if the investment if attractive.
3. Risk takers believe that risky assets diversify the portfolio and thus minimize the risk of the overall portfolio for a higher return.
4. Investors who are willing to take the risk in losing all their investment for a potential high return.

b. Risk Appetite & Return:

1. Generally higher risk implies higher return.
2. Generally the quality of the investment should be analyzed to justify that the higher return is sufficient to compensate for the higher risk.

c. A risk taker would invest in this project since the risks are high with respect to the return given.

GOOD WORK!