

Instructions: Answer all questions in the space provided showing your workings.

QUESTION 1 (40%)

SW Energy purchased equipment from its supplier at a cost of \$560 less 25% and 15%. According to SW Energy's pricing strategy, all merchandise is marked at a price that allows and ongoing discount of 10% and maintains a profit of 15% of the regular selling price. Overhead is 20% of the regular selling price.

- 1) Determine the cost of the equipment to the store? (10)
- 2) Determine the regular selling price of the equipment? (15)
- 3) Determine the original marked price to allow the ongoing discount? (15)

$$560 \times (1 - 0.25) \times (1 - 0.15)$$

$$= \$357.25 \text{ Cost price after discounts}$$

$$\text{Reg. Selling Price} = (C) + (E) + (D)$$

$$S = 357 + 0.20S + 0.15S$$

$$S = 357 + 0.35S$$

$$0.65S = 357$$

$$S = 549.23$$

$$\therefore \text{Reg. Selling Price is } \$549.23$$

$$(2) \text{ Orig. marked Price is given by Discount}$$

$$MP - \text{Discount} = \text{Reg. selling price}$$

$$MP = 0.10MP = 549.23$$

$$MP = \$610.26$$

$$\therefore \text{Reg. Marked price is } \$610.26$$

## Question 2 (20%)

Picture it! 2 years time....Armed with your newly acquired Business Diploma you decide to investigate opening a daycare. Your market research indicates the following:

The legislated capacity is 20 children per day and you will be at full capacity.

The daily rate you plan to charge is \$50 per day per child.

Fixed expenses (per day) work out to \$150 for wages and \$350 for rent/insurance/heat/light etc.

- 4) To break even, what is the most you can spend per day per child? (10)
- 5) Assume you wanted to make a profit of \$200 per day, what is the most you can spend per day per child? (10)

$$\text{Capacity} = 20$$

$$\text{Rate/day} = \$50/\text{child} \quad (50 \times 20 = \$1000 \text{ Revenue})$$

Fixed costs  $\rightarrow$  150 wages  
350 other

$\frac{\$500}{\text{total fixed cost}}$

$$\text{Break-even} = 288$$

$$1000 - 1000$$

FC  
VC

$$1000 = 200 + \text{---}$$

VC must be 500 @ Break-even 50

$$\frac{500}{20 \text{ kids}} = 25/\text{day can spend on kids}$$

$$\text{Light } \$200/\text{day} \quad (5)$$

$$\text{Rev} = 288 + 120 = 408$$

$$1000 = 500 + \text{---} + 200$$

$$\text{VC} = \text{can be } 200/\text{day to make } \$200 \text{ profit}$$

$$\frac{300}{20 \text{ kids}} = \text{Must can spend } \$15/\text{day}$$

### Question 3 (20%)

SW Energy is owed payments of \$500 due Today, \$500 due in five months and \$500 due in one year. The company has been approached to take a single payment that will be paid in 6 months from now. Assume a 10% rate of interest.

6) Calculate what that single payment amount be?

Handwritten solution for Question 3:

**Timeline:**

- Today: \$500 (PV)
- Five months: \$500 (FV)
- One year: \$500 (FV)
- 6 months: Single Payment (PV)

**Calculations:**

①  $PV = \frac{500}{1 + (0.10 \times \frac{5}{12})} = \frac{500}{1.04167} = 480.10$

②  $PV = \frac{500}{1.10} = 454.55$

**Sum of Present Values:**

$480.10 + 454.55 = 934.65$

**Single Payment:**

$934.65 \times (1 + 0.10 \times \frac{6}{12}) = 1024.11$

**Final Answer:**

$1024.11$

Question 4 (20%)

On April 30 of this year, Paul borrowed \$10,000 at 12%. Paul paid \$2,000 on June 30 and \$5000 on September 30. No other payments have been made since.

7) How much does Paul owe TODAY (assume this is the end of October)?

April 30 → 10,000 @ 12%

May 15 = 2 months

↓

10000 × (1 + 0.12 ×  $\frac{2}{12}$ ) = 10200

10200 × 1.02 = 10404

10404 - 2000 = 8404

8404 × (1 + 0.12 ×  $\frac{2}{12}$ ) = 8568

8568 × (1.03) = 8825

8825 - 5000 = 3825

3825 = 3825

Oct + 3446 × (1 + 0.12 ×  $\frac{2}{12}$ ) = 3546

3546 × 1.01 = 3581.46

3581.46 = 3581.46

Oct 3581.46