

PERCENTAGE

Form 1 Regular Course
Vol 3

Part 4 - Area Problem

1. The percentage increase = $\frac{(20 \times 105\%)^2 - 20^2}{20^2} \times 100\% = 10.25\%$

2. The percentage change = $\frac{(x \times 120\%)(y \times 75\%) - xy}{xy} \times 100\% = -10\%$

Part 5 - Profit and Loss

1. The price that Mr. Chan sold the television set and the video recorder at
= $3000(1 - 20\%) + 2000(1 + 30\%) = \5000

Therefore, he didn't make any profits or loss

2. The cost price = $\frac{240000}{1 - 20\%} = \300000

3. (a) Cost of A = $\frac{6000}{1 + 20\%} = \5000

Cost of B = $\frac{6000}{1 - 25\%} = \8000

Thus, the required difference = $8000 - 5000 = \$3000$

(b) Total cost of the two Y-Phones = $5000 + 8000 = \$13000$

The loss after selling the two Y-Phones = $13000 - 2 \times 6000 = \1000

4. The cost of the first shirt = $30 \div (1 - 20\%) = \$37.5$

The cost of the second shirt = $30 \div (1 + 20\%) = \$25$

Thus, the amount that he lose = $37.5 + 25 - 2 \times 30 = \2.5

5. The cost of the motorcycle = $\frac{31680}{1 - 20\%} = \36000

The required percentage loss = $\frac{36000 - 29520}{36000} \times 100\% = 18\%$

6. The cost to $A = \frac{54}{(1-10\%)(1+20\%)} = \50

The profit that A made $= 50(20\%) = \$10$

7. Total selling price of the ball pens $= 60\left(\frac{2}{3}\right)(5) + 60\left(1-\frac{2}{3}\right)(5.5) = \310

The percentage profit $= \frac{310-300}{300} \times 100\% = \frac{10}{3}\%$

8. Let the price of each notebook be $\$x$.

The percentage profit

$$= \frac{15x(1+10\%) + 5x(1-2\%) - 20x}{20x} \times 100\%$$

$$= \frac{21.4x - 20x}{20x} \times 100\%$$

$$= 7\%$$

9. The cost of the first book $= \frac{1040}{1+30\%} = \800

The cost of the second book $= \frac{1040}{1-20\%} = \1300

Total loss $= 800 + 1300 - 2 \times 1040 = \20

10. The cost of a "Hello Mini" $= \frac{90}{1-10\%} = \$100$

The required selling price $= 100 \times (1+20\%) = \120