## Homework

# **Chapter 1 : Financial mathematics**

# 1A Percentage and money:

1.

20%	25%	25%
75%	50%	25%

2.

\$30	\$50	54kg
24km	54 apples	412.5m
15000 people	7000 cars	\$4377.6

3.

\$200	\$200	\$300
\$200	\$300	\$200

\$500	\$400	\$150
\$800	\$60	\$60

- 5. 25%
- 6. 33.33%
- 7. \$36
- 8. 210 students
- 9. \$120

- 10. \$700
- 11. \$600
- 12. 508 kg

# **1B Percentage increase and decrease**

1.

\$165	34.5min	625ml
1.568m	96kg	121.5 watts
\$26300	\$11403	71.045 kg

2.

27.88m	49cm	52.8kg
72in	\$84.5	325.5ml
24.96°C	\$541.2	47.276cm

30%	31.94%	20%
29.05%	115.4%	27.3%

- 4. \$40
- 5. 66.7%
- 6. 37.50%

- a. \$3500
- b. \$4550
- c. The balance didn't return to \$500 because the \$30 increase was applied to the lower balance of \$3500 not the original \$5000.

8.

37.8m	50.7cm	43.5kg
68.8in	\$70.125	259.875ml
20.54°C	\$458	421.761m

9.

30%	25%	20.8%
28.6%	137.5%	30%

#### 10. 260ml

### **1C Profits and discounts**

New Price
\$1275
\$360
\$225
\$195
\$74.49

- i. a. \$3 b. 20%
- ii. a. \$10 b. 33.33%
- iii. a. \$18 b. 20%
- iv. a. \$1000 b. 40%

#### 3.

Percentage
Discount
30%
20%
25%
20%
25%

4.

- a. \$874.80
- b. \$637.73

- a. No
- b. The price in December is not the same as the original price because the 15% increase is applied to the discounted price, not the original price.

Final Price	
\$492	
\$525	
\$110	
\$595	
\$40.375	

7.

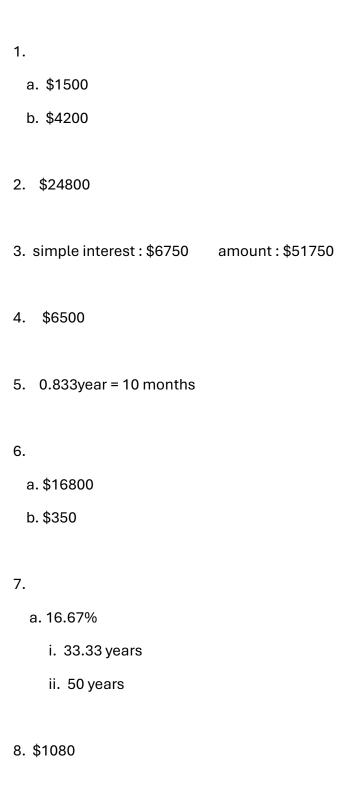
- a. No
- b. The price in January is \$600 and the price in February is \$750. The original price is \$800, it's not equal.
- 8. \$1936

#### 1D Income and taxation

- a. \$1634.62
- b. Lisa
- c. \$67600
- 2. \$12.80

- 3. i. a. \$41750 b. 16.5%
  - ii. a. \$57250 b. 16.1%
  - iii. a. \$42600 b. 17.4%
  - iv. a. \$38160 b. 16.3%
- 4. \$1059.38
- 5. \$56172.84
- 6. \$46200
- 7. \$615
- 8. \$660
- 9. \$499.5
- 10. \$696
- 11. \$17400

# **1E Simple interest**



- 9. simple interest: \$5250 total amount: \$12750
- 10. earn in 3years: \$480

total amount: \$8480

11. total amount: \$24900

Interest: \$9900

- 12. 1 year
- 13. 12.5 years

## **1F Compound interest**

- 1. \$9733.20
- 2. \$364651.88
- 3.
  - a. \$11387.87
  - b. \$ 17729.46
  - c. \$ 26764.51
  - d. \$20158.74
- 4. \$24864.69

- a. \$17777.78
- b. \$33256.79
- c. \$22388.06
- d. \$32877.26
- 6. \$2061823.20
- 7.
  - a. \$16927.50
  - b. 11.29%
- 8. 6 years
- 9. \$296048.00
- 10. \$50679.87
- 11.
  - a. \$13723.20
  - b. 14.27%