

# Consumer arithmetic

## Question 1

- (a) Holiday loading is paid at  $17\frac{1}{2}\%$  on 4 weeks at normal pay. Calculate the holiday loading for:
- (i) Fred, who earns \$467 per week
- \_\_\_\_\_
- \_\_\_\_\_
- (ii) Joe, who earns \$3.85 per hour for a 35-hour week
- \_\_\_\_\_
- \_\_\_\_\_
- (iii) Marianne, who earns \$46 000 per annum
- \_\_\_\_\_
- \_\_\_\_\_
- (b) Bob bought a car priced at \$34 500. He could not afford to pay cash, so he put down a deposit of \$3450 and paid the balance in equal monthly payments of \$1160 for 3 years.
- (i) How much did Bob pay for the car?
- \_\_\_\_\_
- \_\_\_\_\_
- (ii) What was the total interest paid?
- \_\_\_\_\_
- \_\_\_\_\_
- (iii) What was the annual rate of interest?
- \_\_\_\_\_
- \_\_\_\_\_

## Question 2 Use the table below to calculate the tax on the following incomes:

| Taxable income |          | Tax on taxable income |                                     |
|----------------|----------|-----------------------|-------------------------------------|
| from (\$)      | to (\$)  | (\$)                  |                                     |
| 1              | 5400     | Nil                   |                                     |
| 5401           | 20 700   | Nil                   | plus 20c for each \$1 over \$5400   |
| 20 701         | 38 000   | 3060                  | plus 34c for each \$1 over \$20 700 |
| 38 001         | 50 000   | 8942                  | plus 43c for each \$1 over \$38 000 |
| 50 001         | and over | 14 102                | plus 47c for each \$1 over \$50 000 |

- (a) \$17 800 \_\_\_\_\_
- \_\_\_\_\_
- (b) \$26 950 \_\_\_\_\_
- \_\_\_\_\_
- (c) \$56 904 \_\_\_\_\_
- \_\_\_\_\_
- (d) \$120 230 \_\_\_\_\_
- \_\_\_\_\_

## Question 3 In each of the following, calculate the simple interest on:

- (a) \$2000 at  $11\frac{1}{2}\%$  p.a. for 5 years
- \_\_\_\_\_
- \_\_\_\_\_
- (b) \$700 at 5% p.a. for 6 months
- \_\_\_\_\_
- \_\_\_\_\_
- (c) \$820 at  $3\frac{3}{4}\%$  p.a. for 7 months
- \_\_\_\_\_
- \_\_\_\_\_
- (d) \$11 380 at  $12\frac{1}{4}\%$  p.a. for 122 days
- \_\_\_\_\_
- \_\_\_\_\_
- (e) \$132 at 0.5% per day for 29 days
- \_\_\_\_\_
- \_\_\_\_\_
- (f) \$18 625 at 15% p.a. for 8 months
- \_\_\_\_\_
- \_\_\_\_\_

Question 4 In the following, calculate what each amounts to if interest is compounded:

(a) \$700 at 6% p.a. for 6 months, compounded monthly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(b) \$5000 at  $8\frac{1}{4}\%$  p.a. for  $1\frac{1}{2}$  years, compounded 6-monthly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(c) \$820 at 6% p.a. for 1 year, compounded 3-monthly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(d) \$920 at 13% p.a. of 1 year, compounded weekly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question 5 In each of the following calculate the compound interest on:

(a) \$6250 at  $3\frac{1}{2}\%$  p.a. for 5 years, compounded annually

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(b) \$750 at 2% per month for 5 months, compounded monthly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(c) \$12 000 at  $11\frac{1}{2}\%$  p.a. for 3 years, compounded 3-monthly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(d) \$185 at  $3\frac{3}{4}\%$  p.a. for 2 years, compounded quarterly

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question 6 In each of the following, calculate the depreciated value on:

(a) \$980 at  $11\frac{1}{4}\%$  p.a. for 5 years, depreciated annually

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(b) \$120 000 at 15% p.a. for 2 years, depreciated annually

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question 7 Problems

(a) A car is priced at \$26 000. A deposit of 10% is to be paid and interest of 8% p.a. is charged on the balance, to be paid in equal monthly instalments over 5 years.

Calculate the size of the instalments.

Cash price = \$26 000

Deposit  
=  $10\% \times \$26\ 000$  = \_\_\_\_\_

Balance = \_\_\_\_\_

Interest  
=  $8\% \times \dots$  = \_\_\_\_\_

to be paid = \_\_\_\_\_

Monthly instalment  
= \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

(b) A VCR is advertised at \$950 cash, or 5% deposit and weekly payments of \$8.20 over 36 months.

Calculate the total amount paid for the VCR, and the annual rate of interest.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question 8 Use the table on page 22 to calculate the monthly repayments on the following:

(a) \$100 000 for 15 years at 9.5% p.a.

(b) \$25 000 for 7 years at 12.5% p.a.

---



---



---



---

(c) \$275 000 for 25 years at 10.5% p.a.

(d) \$7000 for 4 years at 8.5% p.a.

---



---



---



---

| Interest rate<br>% p.a. | Approximate monthly repayments per \$1000 of loan over number of years |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                         | 2  | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 15    | 20    | 25    |
|                         | \$   | \$    | \$    | \$    | \$    | \$    | \$    | \$    | \$    | \$    | \$    | \$    |
| 6.0                     | 44.32  | 30.42 | 23.49 | 19.33 | 16.57 | 14.61 | 13.14 | 12.01 | 11.10 | 8.44  | 7.16  | 6.44  |
| 6.5                     | 44.55  | 30.65 | 23.71 | 19.57 | 16.81 | 14.85 | 13.39 | 12.25 | 11.35 | 8.71  | 7.46  | 6.75  |
| 7.0                     | 44.77  | 30.88 | 23.95 | 19.80 | 17.05 | 15.09 | 13.63 | 12.51 | 11.61 | 8.99  | 7.75  | 7.07  |
| 7.5                     | 45.00  | 31.11 | 24.18 | 20.04 | 17.29 | 15.34 | 13.88 | 12.76 | 11.87 | 9.27  | 8.06  | 7.39  |
| 8.0                     | 45.23  | 31.34 | 24.41 | 20.28 | 17.53 | 15.59 | 14.14 | 13.02 | 12.13 | 9.56  | 8.36  | 7.72  |
| 8.5                     | 45.46  | 31.57 | 24.65 | 20.52 | 17.78 | 15.84 | 14.39 | 13.28 | 12.40 | 9.85  | 8.68  | 8.05  |
| 9.0                     | 45.68  | 31.80 | 24.89 | 20.76 | 18.03 | 16.09 | 14.65 | 13.54 | 12.67 | 10.14 | 9.00  | 8.39  |
| 9.5                     | 45.91  | 32.03 | 25.12 | 21.00 | 18.27 | 16.34 | 14.91 | 13.81 | 12.94 | 10.44 | 9.32  | 8.74  |
| 10.0                    | 46.14  | 32.27 | 25.36 | 21.25 | 18.53 | 16.60 | 15.17 | 14.08 | 13.22 | 10.75 | 9.65  | 9.09  |
| 10.5                    | 46.38  | 32.50 | 25.60 | 21.49 | 18.78 | 16.86 | 15.44 | 14.35 | 13.49 | 11.05 | 9.98  | 9.44  |
| 11.0                    | 46.61  | 32.74 | 25.85 | 21.74 | 19.03 | 17.12 | 15.71 | 14.63 | 13.78 | 11.37 | 10.32 | 9.80  |
| 11.5                    | 46.84  | 32.98 | 26.09 | 21.99 | 19.29 | 17.39 | 15.98 | 14.90 | 14.06 | 11.68 | 10.66 | 10.16 |
| 12.0                    | 47.07  | 33.21 | 26.33 | 22.24 | 19.55 | 17.65 | 16.25 | 15.18 | 14.35 | 12.00 | 11.01 | 10.53 |
| 12.5                    | 47.31  | 33.45 | 26.58 | 22.50 | 19.81 | 17.92 | 16.53 | 15.47 | 14.64 | 12.33 | 11.36 | 10.90 |
| 13.0                    | 47.54  | 33.69 | 26.83 | 22.75 | 20.07 | 18.19 | 16.81 | 15.75 | 14.93 | 12.65 | 11.72 | 11.28 |
| 13.5                    | 47.78  | 33.94 | 27.08 | 23.01 | 20.34 | 18.46 | 17.09 | 16.04 | 15.23 | 12.98 | 12.07 | 11.66 |
| 14.0                    | 48.01  | 34.18 | 27.33 | 23.27 | 20.61 | 18.74 | 17.37 | 16.33 | 15.53 | 13.32 | 12.44 | 12.04 |
| 14.5                    | 48.25  | 34.42 | 27.58 | 23.53 | 20.87 | 19.02 | 17.66 | 16.63 | 15.83 | 13.66 | 12.80 | 12.42 |
| 15.0                    | 48.49  | 34.67 | 27.83 | 23.79 | 21.15 | 19.30 | 17.95 | 16.92 | 16.13 | 14.00 | 13.17 | 12.81 |
| 15.5                    | 48.72  | 34.91 | 28.08 | 24.05 | 21.42 | 19.58 | 18.24 | 17.22 | 16.44 | 14.34 | 13.54 | 13.20 |

(e) \$1130 for 3 years at 7% p.a.

(f) \$29 950 for 5 years at 9% p.a.

---



---



---



---

(g) \$37 628 for 8 years at 15.5%

(h) \$180 000 for 20 years at 13% p.a.

---



---



---



---

## ANSWERS

- 1 (a) (i) \$326.90 (ii) \$94.33 (iii) \$619.23  
(b) (i) \$45 210 (ii) \$10 710 (iii) 10.35%
- 2 (a) \$2480 (b) \$5185  
(c) 17 346.88 (d) \$47 110.10
- 3 (a) \$1150 (b) \$17.50 (c) \$17.94  
(d) \$465.96 (e) \$19.14 (f) \$1862.50
- 4 (a) \$721.26 (b) \$5664.98  
(c) \$870.32 (d) \$1047.55
- 5 (a) \$1173.04 (b) \$78.06  
(c) \$4861.62 (d) \$14.34
- 6 (a) \$539.59 (b) \$88 386.75
- 7 (a) \$546 (b) \$1326.70; 13.9%
- 8 (a) \$1044 (b) \$448 (c) \$2596  
(d) \$172.55 (e) \$34.89 (f) \$621.76  
(g) \$686.33 (h) \$2109.60