Chapter 5.

Other financial considerations.

Situation One

Jemima Quek works for a company and her normal rate of pay is $23·40 per hour.

However:
- ☞ If she works more that 8 hours on any weekday, further hours worked that day are paid at "time and a half".
- ☞ Any Saturday hours are paid at "time and a half".
- ☞ Any Sunday hours are paid at "double time".

The partially completed wage slip for a particular week in the life of Jemima Quek is shown below with question marks indicating missing values.

	Wage slip for: JEMIMA QUEK .				
	Total hours worked	Normal hours worked	Time & a half hours worked	Double time hours worked	Earnings
		$23·40 / hour	?	$46·80 / hour	
Mon	8	8	0	0	?
Tues	8	8	0	0	?
Wed	9	8	1	0	?
Thur	10	?	?	?	?
Fri	8	?	?	?	?
Sat	4	?	?	?	?
Sun	4	?	?	?	?
				Total earnings for the week:	?

Copy and complete the wage slip.

Situation Two

Tom Jacowitz is looking in the newspaper for clerical jobs and sees the advertisement partially shown on the right.

Tom is 22 years old and wants to know:
- ☞ How much this job would pay him per week.
- ☞ How much this job would pay him per fortnight.
- ☞ How much this job would pay him per month.
- ☞ How much his weekly income would increase under this scheme when he becomes 25?

Determine answers to what Tom wants to know, including with your answers brief mention of any assumptions you are making.

Accounts Clerk Wanted.

Annual salary:

Aged 20 – 24: $58000

Aged 25 and over $65000

Promotional opportunities exist thereafter.

Wages and piecework.

If you work for an *employer* there are a number of ways the amount you are to be paid might be calculated. (One such example would be payment by *commission*, an idea considered in Chapter Two, Percentages.) Some *employees* receive a weekly or fortnightly *wage*. This is an amount paid for a particular quantity of work, for example the \$23·40 for each normal hour worked by Jemima Quek in Situation One on the previous page. The employee may be able to earn a higher rate of pay by working *overtime*, again as in Situation One.

Alternatively the "particular quantity of work" might be a piece of work rather than an hour of work. For example a carpenter could be paid \$50 for each chair frame they complete, a fruit picker could be paid a certain amount for each carton of fruit they pick, etc. This is called *piecework* (payment by the "piece".)

Salary.

Alternatively an employee may be on a *salary* which is a fixed amount earned per year. For example the \$58000 salary offered in the advertisement mentioned in Situation Two on the previous page. This might be paid as a regular weekly amount (equal to the annual salary divided by 52), more commonly as a fortnightly amount (equal to the annual salary divided by 26), or perhaps as a monthly amount (equal to the annual salary divided by 12).

Exercise 5A

Each of questions 1 to 6 involve situations in which the following payment rules apply.

- The first 8 hours worked on any week day are paid at the normal hourly rate.
- If the employee works more than the basic eight hour day on any day then the next two hours that day are paid at "time and a half" and any hours after these extra two on that day are paid at "double time".
- Any Saturday hours are paid at "time and a half".
- Any Sunday hours are paid at "double time".

Calculate the amount each person earns for the week shown.

1.

NAME: Jamie Clark	
Normal rate: \$18·50/hr	
Mon	8 hours
Tue	8 hours
Wed	8 hours
Thur	8 hours
Fri	8 hours
Sat	–
Sun	–

2.

NAME: Ben Carto	
Normal rate: \$26·40/ hr	
Mon	8 hours
Tue	10 hours
Wed	8 hours
Thur	11 hours
Fri	8 hours
Sat	–
Sun	–

3.

NAME : Jen Lee	
Normal rate: $22·40/hr	
Mon	8 hours
Tue	11 hours
Wed	8 hours
Thur	11 hours
Fri	8 hours
Sat	5 hours
Sun	–

4.

NAME: Amrit Poller	
Normal rate: $32·24/ hr	
Mon	8 hours
Tue	8 hours
Wed	8 hours
Thur	10 hours
Fri	11 hours
Sat	4 hours
Sun	4 hours

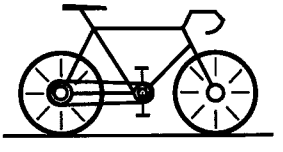
5.

Naomi Clankart	
Normal rate of pay: $17·60 per hour	
Monday	0800 to 1700 with one hour off for lunch (unpaid).
Tuesday	0800 to 1800 with one hour off for lunch (unpaid).
Wednesday	0730 to 1730 with one hour off for lunch (unpaid).
Thursday	0800 to 1900 with one hour off for lunch (unpaid).
Friday	0800 to 1700 with one hour off for lunch (unpaid).
Saturday	–
Sunday	–

6.

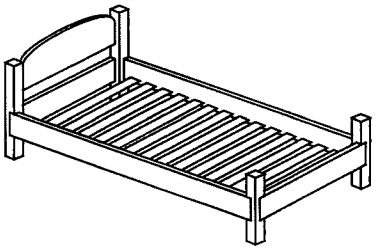
Mai Lee Wong	
Normal rate of pay: $29·80 per hour	
Monday	0730 to 1600 with 30 minutes off for breaks (unpaid).
Tuesday	0730 to 1600 with 30 minutes off for breaks (unpaid).
Wednesday	0730 to 1700 with 30 minutes off for breaks (unpaid).
Thursday	0730 to 1700 with 30 minutes off for breaks (unpaid).
Friday	0730 to 1930 with 1 hour off for breaks (unpaid).
Saturday	0900 to 1200 with no breaks.
Sunday	0900 to 1200 with no breaks.

7. Bob works one day a week for a bike shop, servicing bikes. He is paid $35 for each bike that he services.
In one month he services 25 bikes.
How much will Bob get paid for this work?



8. Nigel picks plums and is paid 45 cents for each kilogram picked.
How much will Nigel be paid for picking (a) 50 kg, (b) 150 kg.

9. Tom is paid \$75 for each single bed frame he makes, assembles then unassembles and packs ready for sending and \$95 for each double bed frame that he similarly makes, assembles, unassembles and packs.
In one week he carries out these tasks for 6 single beds and 8 double beds.
What does Tom earn by completing these tasks?



10. Anne works in a bedding factory as a machinist making quilts. She is paid \$6·50 for each single quilt she makes, \$9·50 for each double size quilt she makes and \$12·00 for each queen size quilt she makes. How much will Anne earn in a week that she makes 52 single quilts, 36 double size quilts and 16 queen size quilts?

11. Sharup earns \$31·40 per hour for a basic 40 hour week. He also tends to work three overtime hours per week for which he is paid "time and a half". He has four weeks holiday per year during which the company pays him his basic 40-hour week wage without overtime.
Sharup is offered a salaried position as a foreman for which his salary will be \$75000 per year.
He asks for your advice as to whether he should take the salaried position. What would your advice be?

12. Remember, 1 year = 52 weeks,
26 fortnights,
12 months.

    (a) \$69000 per annum, how much per month?
    (b) \$65000 per annum, how much per week?
    (c) \$56000 per annum, how much per fortnight (to the nearest cent)?
    (d) \$1560 per fortnight, how much per year?
    (e) \$1290 per week, how much per year?

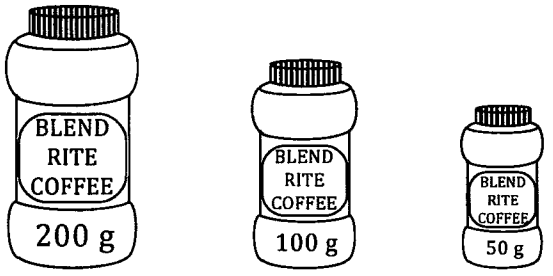
13. List the following in order of size, from the one that would give the greatest amount per year to the one that would give the smallest amount per year. (Assume stated pay rate continues through holidays.)

\$86000 per annum.
\$3210 per fortnight.
\$1680 per week.
\$38·75 per hour, 40 hour week, no overtime.
\$8000 per month.
\$75000 per year.
\$41·20 per hour, 38 hour week, no overtime.
\$7000 per month.

Comparing prices.

SituationThree.

Consider the three different size jars of *Blend Rite Coffee* shown below.



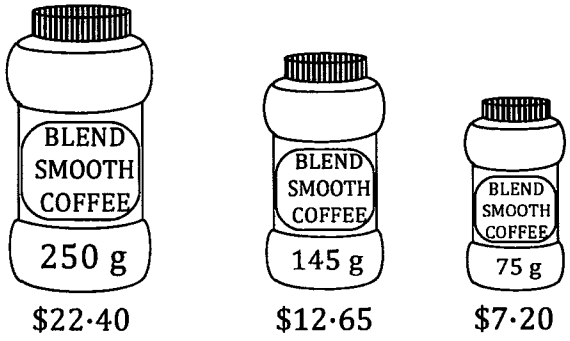
Which of these three gives the best value for money?

Notice that in the situation shown above, if we double the quantity in the small jar (50g) we get the quantity in the middle sized jar (100g), and doubling again gives the quantity in the large size jar (200g).
Did you use this "doubling relationship" to calculate the best buy or did you use some other technique?

Try the following "best buy" situation:

Situation Four.

Consider the three different size jars of *Blend Smooth Coffee* shown below.



Which of these three gives the best value for money?

The second situation on the previous page did not have the nice "doubling relationship" between the amounts of coffee each jar held that the first situation had. Whilst this may have made a mental comparison of value more difficult we could still investigate which jar offered the best value by considering the price per gram (older British spelling is gramme), or some other convenient amount, for example price per 100 grams.

$22·40 per 250 grams $= \frac{\$22·40}{250}$ dollars per gram

$= 0·0896$ \$/g (Which is \$8·96 \$/100g.)

$12·65 per 145 grams $= \frac{\$12·65}{145}$ dollars per gram

$= 0·0872$ \$/g (to 4 d.p.) (Which is \$8·72 \$/100g.)

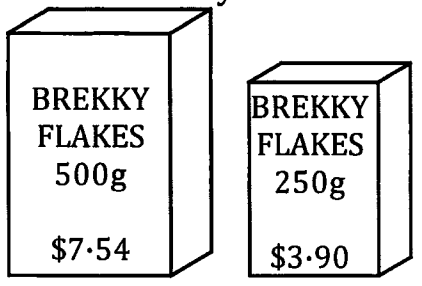
$7·20 per 75 grams $= \frac{\$7·20}{75}$ dollars per gram

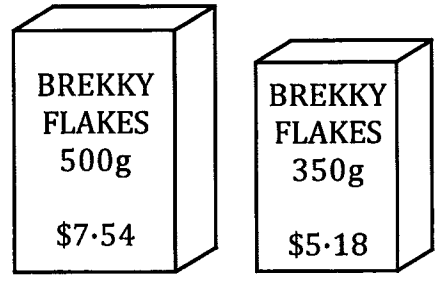
$= 0·096$ \$/g (Which is \$9·60 \$/100g.)

Comparisons can then easily be made once the prices have been given in this **unit price** form, i.e. where the price is quoted *per unit of measure.* (In the above calculations the units of measure used are 1g and 100 g.)

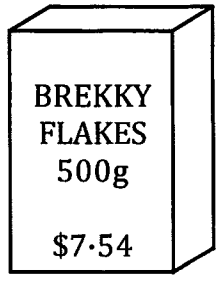
Note: In 2009 the Australian Federal Government introduced legislation making it compulsory for all large supermarkets to display *Unit Price Information* with particular grocery items. Look for this the next time you are in a large supermarket.

If you are good at doubling sums of money then determining the best buy of the two breakfast cereal packets below left is straightforward, but the two below right is much harder to do mentally.

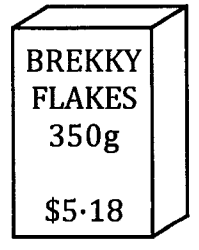




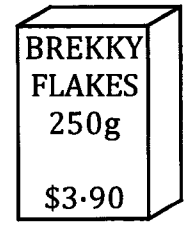
However, if the unit price information is given price comparison is made much easier:



0·01508 cents per gram



0·0148 cents per gram



0·0156 cents per gram

Exercise 5B

1. Write each of the following as "prices per gram".
   (a) \$50 for 800 grams.
   (b) \$18·60 for 200 grams.
   (c) \$8·40 for 250 grams.
   (d) \$16·80 for kilogram.

2. Write each of the following as "prices per 100 grams", giving answers rounded to two decimal places.
   (a) \$17·80 for 300 grams.
   (b) \$9·70 for 150 grams.
   (c) \$17·40 for 1·35 kilograms.
   (d) \$16·80 for pound where 1 pound is an older unit of measure and is equal to 0·45359 kg.

3. Write each of the following as "prices per kilogram".
   (a) \$4·80 for 200 grams.
   (b) \$11·60 for 500 grams.
   (c) \$20 for 1 kilogram.
   (d) \$75 for 5 kilogram.

4. Express each of the following prices as dollars per litre and hence determine "the best buy".

5. Express each of the following prices as \$/100g and hence rank the deals in order of value, best value first.

6. Rank each of the following in order of value, best value first.

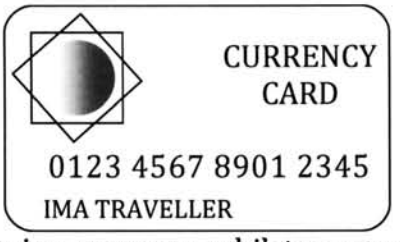
Foreign Currency.

If you travel overseas you will need to exchange Australian currency, i.e. Australian dollars, for the currency used in the country you are visiting, for example British pounds (£), European Euros (€), Japanese Yen (¥), American dollars ($) etc.

Note: The word **dollar** is used for the basic unit of currency in a number of countries including Australia, USA, New Zealand, Singapore and others. If we need to distinguish between them then note that:

AUD, $A, Aus, A etc, may be used to indicate the Australian dollar.
USD, $US or US$ may be used to indicate the US dollar.
NZD, $NZ or NZ$ may be used to indicate the New Zealand dollar.
SGD, $S, $Sing, S$ etc may be used to indicate the Singapore dollar.
Etc.

You might decide to exchange some Australian dollars for another currency before you leave Australia so that you have some of the foreign currency to take with you and to use on your arrival in the other country. You may choose to use some of your Australian money to purchase bank notes in the foreign currency. Alternatively you might purchase *traveller's cheques* that can be exchanged for currency in the other country or perhaps you will choose to "load up" a *pre-paid travel card* with foreign currency and use that to access foreign currency whilst abroad.



You might have access to foreign currency whilst overseas by using your Australian bank card in a bank in that country. This will give you some foreign currency and the equivalent amount in Australian dollars will be deducted from your Australian bank balance (quite possibly with a fee for the transfer included as well).

Foreign currency is also important if you are buying something "on line" from an overseas company. If you use your credit card to pay for the goods the amount you pay in the foreign currency will be converted to the equivalent number of Australian dollars and that sum will be charged to your credit card account.

To determine how much foreign currency we could get for our Australian dollars we need to know the **exchange rate** for the two currencies, i.e the rate at which one currency will be exchanged for the other. These rates can vary from day to day. Current rates are often on display in banks, post offices, travel agents and offices of foreign exchange *brokers*. (A *broker* is a person or company who arranges a transaction between a buyer and a seller, usually for a fee or commission.)

The following table gives the amount one Australian dollar will buy for a number of foreign currencies.

Foreign location	Currency	Symbol	$1 Australian will buy
Britain	Pound Sterling	£	0·6572 British Pounds
Canada	Canadian Dollar	CA $	1·0293 Canadian Dollars
Europe	Euro	€	0·7704 Euros
Hong Kong	Hong Kong Dollar	HK $	7·9959 Hong Kong Dollars
India	Rupee	₹	54·9071 Indian Rupees
Indonesia	Rupiah	Rp	9990·3900 Indonesian Rupiah
Japan	Yen	¥	96·1600 Japanese Yen
Malaysia	Ringgit	RM	3·1899 Malaysian Ringgits
New Zealand	New Zealand Dollar	NZ $	1·2394 New Zealand Dollars
Singapore	Singapore Dollar	S $	1·2784 Singapore Dollars
South Africa	Rand	R	9·1989 South African Rands
Thailand	Baht	฿	30·7500 Thailand Baht
USA	American dollar	US $	1·0315 American Dollars

Note: The rates given in the above table will be used as the exchange rates for the following examples and for the exercise that follows. As mentioned earlier, these rates can change from day to day. You might like to compare the above figures, that were based on the rates at the time this page was created, with the rates applying on the day you are reading this page.

Example 1

With one Australian Dollar ($A 1) being equal to 54·9071 Indian Rupees (₹):

(a) How many Rupees could be bought for $A 250?

(b) How many $A could be bought for 2500 Rupees?

(a)

	$A 1·00	buys	54·9071	Rupees
∴	$A 250	buys	250 × 54·9071	Rupees
		=	13726·775	Rupees
		=	13726	Rupees, (rounded down to whole Rupees).

(a) We need to determine
"how many lots of 54·9071 Rupees there are in 2500 Rupees".

Now $\frac{2500}{54·9071}$ = 45·53 (correct to 2 decimal places).

Thus 2500 Rupees will buy $A 45·53, to the nearest cent.

Exercise 5C

1. With 1 Australian Dollar (1 $A) being equal to 1·2394 New Zealand Dollars ($NZ), and rounding answers to the next whole dollar down:
   (a) How many $NZ could be bought for $A 750?
   (b) How many $A could be bought for 1250 $NZ?

2. With 1 Australian Dollar (1 $A) being equal to 96·16 Japanese Yen (¥):
   (a) How many Yen could be bought for $A 8000?
   (b) How many $A could be bought for 8000 Yen? (Answer to nearest cent.)

3. With 1 Australian Dollar (1 $A) being equal to 9·1989 South African Rand (R):
   (a) How many South African Rand could be bought for $A 300? (Nearest Rand.)
   (b) How many $A could be bought for 5000 SA Rand? (Nearest cent.)

4. With 1 Australian Dollar (1 $A) being equal to 0·6572 British Pounds (£):
   (a) How many British Pounds could be bought for $A 850? (To 2 d.p.)
   (b) How many $A could be bought for £5000? (Answer to nearest dollar.)

5. With 1 Australian Dollar (1 $A) being equal to 3·1899 Malaysian Ringgits (RM):
   (a) How many Ringgits could be bought for $A 2500? (To nearest Ringgit.)
   (b) How many $A could be bought for 8000 Ringgits? (To nearest cent.)

6. Yoshi changed $2000 to Japanese Yen (¥) to use as spending money for his short holiday in Japan.
   During the holiday, of this spending money, Yoshi spent 131700 Yen.
   Upon his return to Australia Yoshi changed the remaining Yen (rounded down to a multiple of 1000 Yen) back to Australian dollars.
   Using an exchange rate of $A1 equaling 96·16 ¥ for both transactions, how much Australian money did Yoshi get back (rounded down to a multiple of 5 cents)?

7. Naomi changes 1000 Australian Dollars to Singapore Dollars to use as holiday spending money in Singapore.
   Naomi spends 1025 of these Singapore dollars and upon her return to Australia Naomi changes the remaining Singapore Dollars, rounded down to a multiple of 2 Singapore Dollars, back to Australian Dollars (rounded down to a multiple of 5 cents).
   Using an exchange rate of $A1 equaling 1·2784 Singapore Dollars for both transactions, how much Australian money did Naomi get back?

8. Pete pays some Australian Dollars to get 2000 $US, at an exchange rate of 1 $A equaling 1·0315 $US, in readiness for an anticipated trip to the US.
   Unfortunately the trip is cancelled and so Pete changes the 2000 $US back to Australian Dollars, but now the rate has changed to 1$A = 1·0525 $US.
   How much Australian money did Pete pay out to get the 2000 US$ and how much Australian currency does Pete get back (give both answers to the nearest cent)?

9. Wendy returns to Australia after an around the world trip involving visits to the United States, Britain, various European countries and Hong Kong.
   Upon her return she collects up the various foreign banknotes she has left and finds she has 60 $US, £75, 125€ and 60 HK$.
   Using the exchange rates given in the table just prior to this exercise calculate a total $Aus value of this collection of foreign banknotes, rounding your total to the nearest Aus Dollar.

10. Connor ordered some computing equipment from online stores based in the United States, Britain, Europe, Canada, Singapore and Australia.
    In all he spent: $545 US,
    and £1250,
    and 660€,
    and $165 Canadian,
    and $120 Singapore,
    and $480 Aus.
    Using the exchange rates given in the table just prior to this exercise calculate the total value of this spending, in Australian dollars, to the nearest ten dollars.

11. When a dealer in foreign currency (a currency broker) sells you some foreign currency they make money by either charging you a fee, as in part (a) below, or by having a different "buy rate" and "sell rate", as in part (b) below (or perhaps by charging a fee AND having different buy and sell rates). The buy rate is the rate at which the dealer will *buy* foreign currency *from* someone and the sell rate is the rate at which the dealer will *sell* the foreign currency *to* someone.
    (a) Tom wishes to use some Australian money to buy US bank notes to the value of $US 250. The currency broker he goes to offers to sell him 1·0315 $US for each $Aus but also charges a fee of $15 Australian on top, and then rounds up to the next multiple of 5 cents.
    How much Australian money will the 250 US$ cost Tom altogether?
    (b) Julie returns from her holiday in America and changes her remaining US currency back to Australian dollars. She exchanges 500 $US with a broker who pays her $0·9295 Australian for each $1 US.
    Later that day Leroy wants to purchase some US banknotes for his trip to America. The broker offers him the 500 $US selling each US$ for 1·0095 $Aus. If Leroy buys all 500 $US how much has the broker made in this "buy from Julie and sell to Leroy" transaction?

₹	$$$$$ $$$$$ **There are a number of online currency calculators – investigate.** $$$$$ $$$$$	€

Shares.

Some people choose to invest money by buying shares in a company.

If the company does well the share price may increase.
If the company makes a profit it may pay out some or all of this profit to the shareholders.

Hence the investor may see the value of their investment rise, as the share price increases, and also could receive an annual payment from the company, called a **dividend**, which is the investor's share of the company profits.

- The company may decide not to distribute all of the profits to the investors, preferring to re-invest some back into the company, allowing the company to expand and increase future profits.
- The company may not make a profit every year. Some years it may just "break even" or perhaps make a loss.
- The share price could drop in value, decreasing the total value of the shares owned.

All of the shares an investor owns in various companies make up the investor's share **portfolio**.

Example 2

An investor owns shares in four companies as shown by the portfolio details below, which also shows the dividend per share for each holding.

Company	Number of shares	Value per share	Dividend per share
BCD Limited	5000	\$0·86	\$0·05
EFG Group	540	\$23·50	\$1·45
HIJ Resources	2500	\$3·40	\$0·28
KLM Group	7000	\$0·54	No dividend

Calculate the total value of this portfolio, based on the share values given, and the total dividend the investor will receive.

Value of BCD Ltd shares:	5000	shares at	\$0·86	each	=	\$4300
Value of EFG Group shares:	540	shares at	\$23·50	each	=	\$12690
Value of HIJ Resources shares:	2500	shares at	\$3·40	each	=	\$8500
Value of KLM Group shares:	7000	shares at	\$0·54	each	=	\$3780
			Total value		=	\$29270

Dividend from BCD Ltd shares:	5000 × \$0·05	=	\$250
Dividend from EFG Group shares	540 × \$1·45	=	\$783
Dividend from HIJ Resources shares	2500 × \$0·28	=	\$700
Dividend from KLM Group shares	7000 × \$0·00	=	\$0
	Total dividend	=	\$1733

Price-to-earning ratio, or P/E.

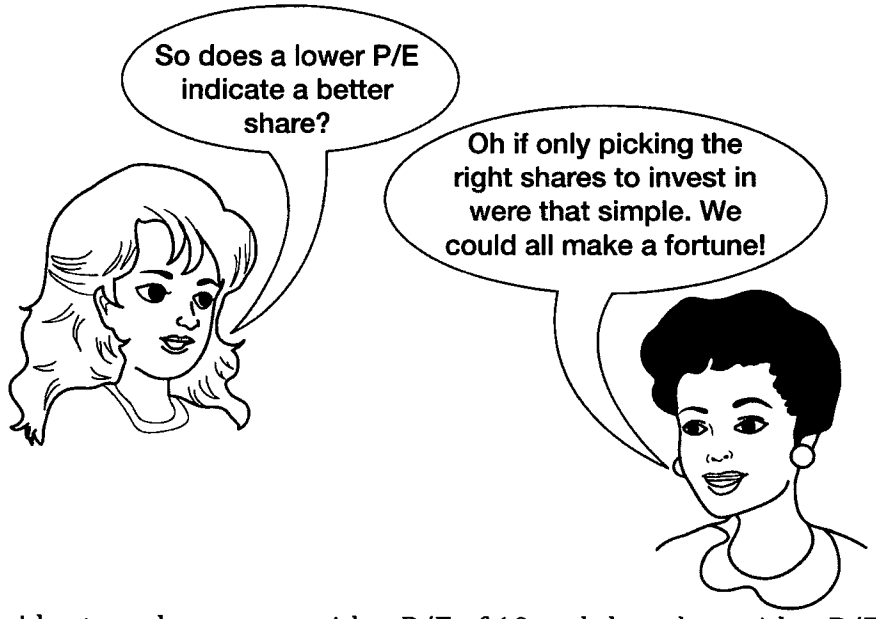
If a share with a value of \$20 paid a dividend of \$4 in the most recent 12 month period we say that its *price-to-earnings ratio*, or P/E, is $\frac{20}{4}$, i.e. 5.

Similarly a share with a value of \$32 paying a dividend of \$2 in the most recent 12 month period has a *price-to-earnings ratio* of 16 $(=\frac{32}{2})$.

$$\text{Price to earnings ratio, or P/E, } = \frac{\text{Share price}}{\text{Earnings in past year}}.$$

The P/E tells us how many dollars worth of share value we must pay to get one dollar of earnings in the year. I.e. in the first case above, each \$5 of share value earns us \$1 of dividend and in the second case each \$16 of share value earns us \$1 of dividend.

We can also view the P/E of a share as the number of years it will take for the dividend to pay for the share. In the first case above the P/E of 5 means that 5 years of continued dividend will pay for the share whereas in the second example, with a P/E of 16, it will take 16 years of continued dividends to pay for the share.



Let us consider two shares, one with a P/E of 10 and the other with a P/E of 8. For the first one we need to spend \$10 to get earnings of \$1 whereas for the second one we need to spend only \$8 to get earnings of \$1. This would suggest that the second share, with its lower P/E, is the better buy, but this might not be the case. The first share might be in a company that has excellent prospects for big profits in the future, but is not yet in a position to deliver those anticipated profits. This could make shares in this company very popular and investors could be prepared to pay a higher price for a share that promises good returns in the future. This will drive the price up but with the higher profits still to come the current P/E could be high.
So a high P/E may indicate shares that are over priced but it could also indicate a share for which there are high hopes of large profits in the future.

The price to earnings ratio is just one piece of useful information. It does allow comparison between shares to be made, and monitoring it over a period of time allows us to consider changes, but it is just one piece of information. Future prospects, share price history, earnings history, company expectations for the future and other aspects all need to be considered too before we can decide which shares are best to buy – and even then we might get it wrong!

Note: If a company makes either no profit or a negative profit (i.e. a loss) we tend to say that the price earnings ratio is not applicable (because there are no earnings).

Example 3

Determine the price to earnings ratio for a share with a price of \$5·50 and dividends in the last twelve months totaling 44 cents per share.

$$\text{Price earnings ratio} = \frac{\text{Share price}}{\text{Earnings in past year}}$$

$$= \frac{\$5{\cdot}50}{\$0{\cdot}44}$$

$$= 12{\cdot}5$$

The price to earnings ratio for this share is 12·5.

Exercise 5D

For each of questions 1 to 4 find both the total value and the total dividend due for each of the given share portfolios.

1. **Portfolio One**

Company	Number of shares	Value per share	Dividend per share
RK Industries	3500	\$8·74	\$0·84
DG Resources	7500	\$2·54	\$0·45
JA Corporation	800	\$15·45	\$0·88

2. **Portfolio Two**

Company	Number of shares	Value per share	Dividend per share
AKT Limited	1200	\$123·56	\$8·45
Takit Group	7000	\$56·35	\$3·81
Metals Ltd	54000	\$2·54	\$0·14
Jeluvion Fund	16500	\$8·45	\$0·28

3. **Portfolio Three**

Company	Number of shares	Value per share	Dividend per share
Tekan Limited	5000	$4·78	$0·23
TPSD Inc	2300	$7·92	No dividend
Superla Fund	11800	$1·23	$0·08
BKJ Resources	3500	$4·80	$0·45
Lumsdon Corp	450	$67·55	$3·24

4. **Portfolio Four**

Company	Number of shares	Value per share	Dividend per share
Calivia Ltd	2000	$5·60	8·2% of share price
Mavis and Co	2000	$3·85	5·3% of share price
Dally Inc	500	$17·80	3·8% of share price
Tuscan Corp	1200	$9·56	10·2% of share price
Petron Oil Ltd	4000	$2·67	No dividend
Parack Trust	6500	$0·85	6·3% of share price
Savings Trust	3200	$6·85	3·6% of share price
Borek Limited	1500	$23·40	2·7% of share price

5. Determine the P/E (the price to earnings ratio) of a company that has a share price of $54 and for which the total earnings over the previous twelve months has been $4·50.

6. Determine the P/E (the price to earnings ratio) of a company that has a share price of $12·80 and for which the total earnings over the previous twelve months has been $0·95.

7. List the following companies in order from the one with the lowest P/E (price to earnings ratio) first to the one with the highest P/E last.

Company	Current share price	Total dividend in last 12 months
DeepGas Limited	$54·45	$4·36
Iron Resources	$16·86	$1·22
Jupiter Trust	$0·92	$0·08
Linear Corp	$85·40	$3·85
Japatali Fund	$7·84	$0·82
Premiere Bank	$18·56	$2·47
Tacomala Group	$3·48	$0·28

8. (a) A company declares its annual dividend equal to 10% of its share price. What is the company's price to earnings ratio?
   (b) A company declares its annual dividend equal to 5% of its share price. What is the company's price to earnings ratio?
   (c) If a company has a price to earnings ratio of 8 express its current dividend per year as a percentage of the share price.

9. The price of a share in a company can fall a little when it goes "ex-dividend". Explain (research if necessary).

Government allowances and pensions.

Raising children can be expensive. Some parents on low incomes can find it difficult to pay all the bills from their income. In such cases the Government *Family Tax Benefit* may help.

When a person reaches an age at which they retire from work the money they were earning from working stops but many of the bills they incur, food bills for example, still need to be paid. In such cases the Government's *Age Pension* may help.

If you need to provide care to a person in your family who has a physical, intellectual or psychiatric disability it could be difficult for you to also have a full time job. Without this ability to work full time you may have trouble performing your duties as a carer and paying the bills and expenses. In such cases the Government's *Carer Payment* may help, or perhaps the *Carer Allowance* may be of assistance.

If someone aged 25 or over wants to enroll for a full time education or training course they could find it very difficult to pay the everyday bills when their training commitment does not leave much time for a paid job. In such cases the Government *Austudy* may help.

If someone has a physical, intellectual or psychiatric impairment that limits their ability to undertake work, or training for work, then their ability to earn sufficient money to meet their living expenses could also be limited. In such cases the Government's *Disability Support Pension* may help.

Payments like the Family Tax Benefit, the Age Pension, Carer Payments, Carer Allowance, Austudy and the Disability Support Pension mentioned above, and others, are available to financially help those in need. However the Government has to ensure that the people who get these payments are genuinely in need of them. To be eligible for such payments people have to meet basic conditions, such as being an Australian resident, being of a certain age, being enrolled for particular courses, having particular disabilities etc. In addition the payments are often subject to an income test, and in some cases an assets test. If a person's income is above a particular level the allowance may be reduced or perhaps denied altogether. Similar reductions may occur if the total value of the assets a person owns exceeds particular amount.

To get some familiarity with these ideas this section will consider three Government allowances: Carer Allowance, Family Tax Benefit and The Age Pension.

Note.
- When considering these allowances this text may present a somewhat simplified version of the real system in order to make calculations more manageable, whilst still retaining the basic principles of the process.
- The allowances and rules shown here should not be taken as the situation that necessarily applies at the time you are working through this topic.

Carer Allowance.

If a person provides care to an adult or dependent child who's disability, medical condition or frailty means that they require care on a daily basis then the person may be eligible to receive a *Carer Allowance*, provided both care giver and care receiver are Australian residents. (If the caring required is more constant the carer may qualify for the more substantial Carer Payment, not considered here.)
The Carer Allowance is a payment of $115·40 per fortnight plus a once a year lump sum payment of $600 paid every July.
The carer can receive this Care Allowance irrespective of the income or assets of the care giver or of the care receiver.

Family Tax Benefit.

To help with the cost of bringing up children a Family Tax Benefit can be paid to the parents or guardians of any child who is up to 15 years of age, or is between 15 and 19 and still in full time secondary study, and who is living with the parent or guardian making the claim for benefit. How much will be paid depends on the total annual income of the parents or guardians and the number of children in the family who meet the criteria.
(In the real system the allowance depends on the age of the child but, to keep it straightforward, this text will not make this distinction and will also only consider the situation for families with one or two children.)

Families with 1 child meeting the criteria.	
Combined annual income	Family Tax Benefit for the year
Up to $48000	$5100
$48000 to $63000	$5100 less 20 cents for each $1 annual income exceeds $48000
$63000 to $95000	$2100
$95000 to $102000	$2100 less 30 cents for each $1 that annual income exceeds $95000
Over $102000	Nil

Families with 2 children meeting the criteria.	
Combined annual income	Family Tax Benefit for the year
Up to $48000	$10200
$48000 to $78000	$10200 less 20 cents for each $1 annual income exceeds $48000
$78000 to $98000	$4200
$98000 to $112000	$4200 less 30 cents for each $1 that annual income exceeds $98000
Over $112000	Nil

The Age Pension.

Once a person reaches retirement age, which for someone born after 1st January 1957 is 67, they may be entitled to receive the *Age Pension.* Whether the aged person receives all or any of the pension depends on their total income from all other sources and the total value of their assets and those of their partner, excluding the value of their house if they own one. They must also have been an Australian resident for a total of at least ten years, of which at least five must have been unbroken.

For the purposes of this text the fortnightly pension rates should be taken to be as given below. However these are used to illustrate the process only. For actual rates, amounts and rules the reader should consult the appropriate government websites.

$772·60 per fortnight for a single person.
(Consisting of a base amount of $712 + a pensioner supplement of $60·60)

$582·40 per fortnight for each qualifying member of a couple.
(Consisting of a base amount of $536·70 + a pensioner supplement of $45·70)

However these amounts may be reduced subject to the income test and the assets test. Both of these tests are applied to assess the level of payment and the one that gives the lower level of payment will be the one that applies.

The Assets test.

For singles and couples, who are or are not homeowners, the assets limit for receiving the full pension should be taken to be as follows:

Situation	Homeowners	Non homeowners
Single	$192500	$332000
Couple (combined assets)	$273000	$412500

Assets above the amounts shown in the table will reduce the pension by $1·50 per fortnight ($0·75 for each member of a couple) for each $1000 above the amount shown in the table.

Note: Any of the assets that are income earning assets, eg bank accounts, shares etc, will be deemed to earn income at the "deeming rate" – we will use a 4% per annum deeming rate.

The Income test.

For singles and couples the income limit for receiving a full pension should be taken as:

Situation	
Single	$152·00 per fortnight
Couple (combined income)	$268·00 per fortnight

Fortnightly income above the amounts shown in the table will reduce the pension by 50 cents per fortnight (25 cents for each member of a couple) for each $1 above that shown in the table. However of the income that is earned from employment (rather than deemed income from assets like bank accounts etc) the first $250 earned per fortnight does not count in the income test.

Example 4

Determine the fornightly age pension for a single homeowner of pension age with assets of $257000 (excluding the family home), of which $150000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $680.

Under the Assets test:

$$\text{Fortnightly pension} = \$772{\cdot}60 - \frac{\$257000 - \$192500}{\$1000} \times \$1{\cdot}50$$
$$= \$675{\cdot}85$$

Under the income test:

Earned income of $680 per fortnight + deemed income of $\frac{\$150000 \times 0{\cdot}04}{26}$ per fortnight.

Thus for the income test we count fortnightly income of $(\$680 - \$250) + \$231$ (rounded)

$$= \$661$$
$$\text{Fortnightly pension} = \$772{\cdot}60 - (\$661 - \$152) \times \$0{\cdot}50$$
$$= \$518{\cdot}10$$

Choosing the lesser of these gives the fortnightly pension as $518 (nearest dollar).

Example 5

Determine the fornightly age pension for each pension age member of a homeowning couple with assets of $750000 (excluding the family home), of which $650000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $120.

Under the Assets test:

$$\text{Fortnightly pension} = \$582{\cdot}40 - \frac{\$750000 - \$273000}{\$1000} \times \$0{\cdot}75$$
$$= \$224{\cdot}65$$

Under the income test:

Earned income of $120 per fortnight + deemed income of $\frac{\$650000 \times 0{\cdot}04}{26}$ per fortnight.

Thus for the income test we count fortnightly income of $(\$120 - \$120) + \$1000$

$$= \$1000$$
$$\text{Fortnightly pension} = \$582{\cdot}40 - (\$1000 - \$268) \times \$0{\cdot}25$$
$$= \$399{\cdot}40$$

Choosing the lesser of these gives the fortnightly pension as $225 (nearest dollar) for each member of the couple meeting pension age criteria.

Exercise 5E

For this exercise you will need to refer to the various allowance details given on the previous pages. Any assets stated for homeowners should be assumed to exclude the family home.

1. What is the annual Carer Allowance?
2. Determine the annual Family Tax Benefit (FTB) paid to a family with one child meeting the FTB requirements and with a combined annual family income of $52000.
3. Determine the fortnightly Family Tax Benefit (FTB), paid to a family with two children meeting the FTB requirements and with a combined annual family income of $135000.
4. Determine the fortnightly Family Tax Benefit (FTB) paid to a family with two children meeting the FTB requirements and with a combined annual family income of $102000.
5. Determine the annual Family Tax Benefit (FTB) paid to a family with one child meeting the FTB requirements and with a combined annual family income of $37000.
6. Determine the fornightly age pension for a single homeowner of pension age with assets of $650000, of which $450000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $120.
7. Determine the fornightly age pension for each pension age member of a homeowning couple with assets of $220000, of which $185000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $300.
8. Determine the fornightly age pension for each pension age member of a non-homeowning couple with assets of $320000, of which $250000 will be deemed to earn 4% per annum income, and an annual earned income of $22100.
9. Determine the fornightly age pension for a single non-homeowner of pension age with assets of $90000, of which $70000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $400.
10. Determine the fornightly age pension for each pension age member of a non-homeowning couple with assets of $245000, of which $150000 will be deemed to earn 4% per annum income, and an annual earned income of $9074.
11. Determine the fornightly age pension for a single homeowner of pension age with assets of $550 000, of which $500 000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $250.
12. Determine the fornightly age pension for a single non-homeowner of pension age with assets of $25000, of which $5000 will be deemed to earn 4% per annum income, and a fortnightly earned income of $800.

Budgeting.

Pete and Julie want to take themselves and their two children away on a holiday next year but are not sure they will be able to save enough money to pay for it. They decide to prepare a *budget*. This means that they allocate future earnings to the various household expenditures likely to occur, in this case to see if this planned expenditure leaves enough for a holiday fund to be created. They know that the total family income is $1330 per week and they list the following likely weekly expenditure items:

Rent $320	Gas and electricity $30	Phones $20
Internet $15	Entertainment/Eating out $100	Clothing $75
Car $160	Bus/train travel $20	Insurances $40
Loan repayments $95	Food $200	Sports and Gym $50
Health fund $80		

Some of the above items involve **fixed expenditure**. For example the internet costs or the rent, which would be set at a fixed, agreed amount per week (probably paid on a monthly basis).

Some of the items involve **discretionary spending**. For example the allowance for entertainment/eating out is something the family have some *discretion* over, i.e. the family can choose to spend more or less than this amount. It is not a fixed amount.

The budget, shown below, indicates that Pete and Julie could start a holiday fund with $125 being available to go into it each week:

Weekly Budget			
Income		**Expenditure**	
Family benefit	$80	Bus/train travel	$20
Wages & Salary (after tax)	$1250	Car	$160
		Clothing	$75
		Ent/Eating out	$100
		Food	$200
		Gas & Elec	$30
		Health fund	$80
		Internet	$15
		Insurances	$40
		Loan repayment	$95
		Phones	$20
		Rent	$320
		Sports & Gym	$50
Total Income	**$1330**	**Total Expenditure**	**$1205**
		Income – Expenditure	**$125**

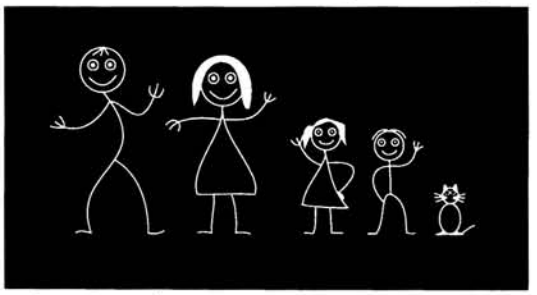
→ → → **A spreadsheet can be particularly useful in creating a budget.** ← ← ←

Note: A household budget gives an expenditure guideline and expenditure on each item should be kept within those guidelines if possible. However unexpected expenditure can be necessary so some flexibility should be allowed for. If the budget overspends a little on one item, savings can be looked for in another area, or savings can be looked for from the budget of the following week, or the budget may need to be adjusted, etc.
Over time the budget will need to be adjusted to reflect changes to income, expenditure patterns, family circumstances etc.

Exercise 5F

1. Discuss with others in your class how realistic the figures in the previous budget seem. Do any of the amounts shown strike you as being surprisingly high/low? Any areas where you think money could be saved or further money would need to be spent? Any items of likely expenditure missing?

2. Imagine you are a parent in a family comprising
Mum, Dad and two Children (and a cat).



The total income for the family is $128000 of which 80% is available as "take home pay" after income tax has been deducted. The total salary is due to one of the parents working full time and the other working part time. The two children are both of school age but some before school and after school child care facilities have to be allowed for.
Think of the likely expenses such a family will incur and, with the assistance of a spreadsheet, prepare a fortnightly budget for the family.

3. Think of your own income and expenditure (or that of a fictitious friend of about your age who attends school and either does some part time evening and weekend work or receives a financial allowance from parents). Prepare a weekly budget for yourself (or the fictitious friend).

4. There are a number of internet budget planners available. Investigate.

5. Suzanne is 20 years old and thinking of purchasing a car. She has enough saved to be able to do this but as part of preparing her budget she wants to know what the likely running costs are e.g. fuel costs, insurance, road tax, servicing etc.
Investigate and prepare a written report for her. Include a spreadsheet display in your report.

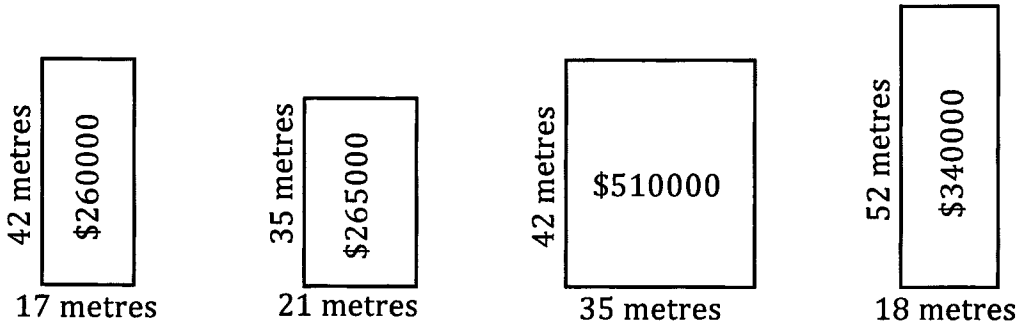
Miscellaneous Exercise Five.

This miscellaneous exercise may include questions involving the work of this chapter, the work of any previous chapters, and the ideas mentioned in the preliminary section at the beginning of the book.

1. Which is the greater in each of the following:
   (a) 80% of \$55 or 9·6% of \$450.
   (b) 126% of \$70 or 93% of \$95.
   (c) 80% of \$50 or 50% of \$80.
   (d) 40% of \$65 or 65% of \$40.

2. Determine the value after three years of an investment of \$5000 invested at 6% per annum compound interest with the compounding occurring
   (a) annually, (b) every six months, (c) quarterly, (d) monthly.

3. With "all other things being equal" the cost of each of the following blocks of land could be compared and ranked in order of "best value for money" on the basis of cost per square metre. Rank the blocks in this way.



   In this situation how likely is it that "all other things will be equal".

4. If you are 22 years of age, or older, and are unemployed but actively seeking paid work, and meet certain income and assets tests, you may be eligible for the Government *Newstart Allowance.*
   If you are single, with no children, and earn less than \$62 per fortnight, *Newstart* gives you an allowance of \$492·60 per fortnight.
   This fortnightly allowance reduces by 50 cents in the dollar for each dollar you earn over \$62 per fortnight, up to you earning \$250 per fortnight. Income above \$250 per fortnight further reduces the allowance by 60 cents in the dollar for each dollar you earn over \$250 per fortnight.
   (a) Calculate the fortnightly Newstart Allowance for a single 24 year old, with no children, who meets the criteria for receiving the Newstart Allowance and earns \$100 per fortnight.
   (b) Calculate the fortnightly Newstart Allowance for a single 28 year old, with no children, who meets the criteria for receiving the Newstart Allowance and earns \$300 per fortnight.
   (c) As the fortnightly income increases (in whole dollars) at what amount does the Newstart Allowance first "cut out" altogether for a single person, over 22, with no children?

5. The 25 Engineering students at a college all do 4 units chosen from 6.
All the students have to do unit I but then choose 3 of II, III, IV, V and VI.
They are then awarded grades A, B, C, D or F in each unit.
The results for the 25 students are shown below.

Alan Amos	Unit I grade B	Unit IV grade A	Unit V grade B	Unit VI grade B
Betty Baxter	Unit I grade B	Unit II grade C	Unit III grade B	Unit IV grade B
Carlie Crabb	Unit I grade C	Unit III grade B	Unit IV grade C	Unit VI grade B
Diane Denny	Unit I grade B	Unit IV grade B	Unit V grade B	Unit VI grade B
Eric Even	Unit I grade C	Unit II grade C	Unit V grade B	Unit VI grade B
Frank Fermat	Unit I grade C	Unit II grade D	Unit IV grade D	Unit V grade C
Gwen Garland	Unit I grade C	Unit II grade D	Unit V grade D	Unit VI grade C
Harry Hughes	Unit I grade F	Unit III grade F	Unit V grade F	Unit VI grade D
Ian Icon	Unit I grade B	Unit II grade C	Unit IV grade B	Unit VI grade B
Janice Jones	Unit I grade D	Unit III grade C	Unit IV grade D	Unit V grade C
Kim Keppler	Unit I grade B	Unit II grade B	Unit III grade A	Unit VI grade A
Larry Lines	Unit I grade C	Unit II grade C	Unit V grade B	Unit VI grade C
Mavis Marsden	Unit I grade B	Unit III grade A	Unit IV grade A	Unit VI grade B
Norman Napp	Unit I grade A	Unit II grade A	Unit V grade A	Unit VI grade A
Olive Ogate	Unit I grade D	Unit IV grade C	Unit V grade C	Unit VI grade C
Peter Parton	Unit I grade C	Unit II grade C	Unit IV grade B	Unit VI grade D
Quintin Quark	Unit I grade C	Unit IV grade C	Unit V grade C	Unit VI grade C
Roland Rapp	Unit I grade A	Unit II grade C	Unit V grade B	Unit VI grade B
Sadie Smith	Unit I grade C	Unit IV grade C	Unit V grade B	Unit VI grade B
Tom Tripp	Unit I grade A	Unit II grade A	Unit III grade B	Unit VI grade A
Una Userp	Unit I grade C	Unit III grade D	Unit V grade D	Unit VI grade D
Victor Velor	Unit I grade D	Unit II grade D	Unit V grade D	Unit VI grade D
Walter Wong	Unit I grade C	Unit III grade C	Unit IV grade B	Unit VI grade C
Xue Xenides	Unit I grade A	Unit II grade B	Unit III grade A	Unit VI grade A
Ying Yenson	Unit I grade B	Unit III grade B	Unit IV grade B	Unit VI grade A

As part of the process of comparing the units the above data is used to complete the table shown below. Copy and complete this table, giving percentages to the nearest integer.

	Number of students	Percentage of those doing the unit getting A's	B's	C's	D's	F's
Unit I						
Unit II						
Unit III						
Unit IV						
Unit V						
Unit VI						