

## COMMISSION AND BROKERAGE

242. Farmers, produce dealers, manufacturers and others frequently find it more convenient to employ a third person to dispose of their goods, instead of selling direct to consumers. The person who sells the goods is called a **commission merchant**, an **agent** or a **broker**. The pay received for such services is called **commission** or **brokerage**.

243. Produce is usually shipped to a commission merchant, and sold by him in his own name. The proceeds less the commission, or the **net proceeds**, are sent to the **shipper** or **consignor**. If a commission merchant is buying goods for a customer, he charges the cost plus the commission. The amount of commission varies in different lines of business.

244. A broker buys and sells without having possession of the goods, and generally does not make contracts in his own name.

245. Commission, or brokerage, is usually computed at a certain per cent of the amount realized on sales, or invested for the customer. In buying and selling certain kinds of merchandise, it is customary to pay a certain price per unit of measurement or weight; as grain per bushel, hay per ton, etc.

## EXERCISE 56

What is the commission on:

- |   |                                |
|---|--------------------------------|
| 1. \$750.50 at 2%?  | 4. \$350.45 at 10%?            |
| 2. \$12368 at $\frac{1}{2}$ %?                                  | 5. \$3764 at $\frac{1}{4}$ %?  |
| 3. \$75429.75 at $\frac{1}{8}$ %?                               | 6. \$5250 at $7\frac{1}{2}$ %? |
| 7. The sale of 1000 bu. of grain at $\frac{1}{2}$ ct. a bushel? |                                |
| 8. The sale of 25 T. of hay at 50 ct. a ton?                    |                                |
| 9. The sale of 40 head of cattle at 50 ct. a head?              |                                |
| 10. The sale of 1500 bales of cotton at 25 ct. a bale?          |                                |
| 11. The sale of 22 horses @ \$125 a head at 2%?                 |                                |

Find the amount to invest and the commission when the following remittances and rates of commission are given:

- |                                |                                 |
|--------------------------------|---------------------------------|
| 12. \$1030 at 3%.              | 15. \$6300 at 5%.               |
| 13. \$5025 at $\frac{1}{2}$ %. | 16. \$1100 at 10%.              |
| 14. \$8020 at $\frac{1}{4}$ %. | 17. \$2562 at $2\frac{1}{2}$ %. |

Find the net proceeds and commission on each of the following sales:

18. 200 bbl. of apples @ \$3, less freight \$62.50, commission 5%.
19. 5000 bu. of wheat @ 72 ct., less \$102.50 freight, \$25 storage,  $\frac{1}{4}$ % insurance and 2% commission.
20. 500 bbl. of beef @ \$19.50, less 48 ct. a barrel freight, \$7.50 storage and  $2\frac{1}{2}$ % commission.
21. 1500 doz. eggs @ 22 ct., less \$9.50 express and 10% commission.
22. 12 bales of cotton averaging 475 lb. @  $9\frac{1}{2}$  ct. a pound, less \$42.50 freight, \$1.25 a bale storage and  $2\frac{1}{2}$ % commission.

23. An agent charges \$20 for advertising the sale of a farm, and 3% commission. He sells the farm for \$7500. What are the net proceeds and the agent's commission?

24. A collector is given a bill of \$1350 to collect at 5% commission. He succeeds in collecting 85 ct. on the dollar. How much is due his employer, and what is his commission?

25. A miller orders his agent to buy him 2500 bu. of wheat @ 80 ct. If the agent charges 3% commission, and freight and drayage charges are \$95.75, what is the total cost of the wheat?

26. A merchant sends his agent \$1836 to buy an equal number of yards of each of three grades of muslin at 3, 4 and 5 ct. a yard respectively, after deducting 2% commission. How many yards of each kind does he get, and what is the agent's commission?

27. A manufacturer sold \$20000 worth of goods through his agent at 2% commission, and instructed him to purchase raw material with the proceeds at 1% commission. Find the net proceeds of the sale, the amount invested in raw material, and the agent's entire commission.

28. A dealer sent two car loads of hay weighing 27 T. to his broker in New York, who sold it for \$16 a ton, and remitted \$418.50. If the dealer paid \$8.50 a ton, the freight cost  $16\frac{2}{3}$  ct. a hundredweight, and storage was \$12.50, how much did he make, and what was the broker's commission per ton?

29. A book agent sells, during July and August, 77 copies of a certain book at 40% commission. If he sells 20 copies in full leather binding @ \$6.50, 25 copies in half leather @ \$5.25, and 32 copies in cloth @ \$4, how much does he make if his expenses average \$1.25 a day?

## INTEREST

246 Interest is money paid for the use of money.

247. The sum loaned is called the **principal**.

248. The **rate of interest** is the rate per cent per annum of the principal paid for the use of money.

In the absence of a specific contract the rate of interest is fixed by law in most states. The rate thus determined is called the **legal rate**. By special contract interest may be received at a higher rate than the legal rate. The maximum contract rate is fixed by law in most states. Interest in excess of the maximum contract rate is called **usury**. The penalty for usury is fixed by law in states where it is forbidden.

249. The principal plus the interest is called the **amount**.

250. The practical business problem of most frequent occurrence in interest is to find the interest when the *principal, rate, and time* are given.

251. In computing interest without tables it is usually the custom to reckon the year as 360 da., the month as  $\frac{1}{12}$  of a year and the day as  $\frac{1}{360}$  of a month or  $\frac{1}{360}$  of a year. (See, however, § 254.)

*Ex.* Find the interest and amount of \$720 for 2 yr. 6 mo. 15 da. at 6%.

*Solution.* 2 yr. 6 mo. 15 da. =  $2\frac{11}{12}$  yr.

The interest for one year = 0.06 of \$720.

$\therefore$  the interest for  $2\frac{11}{12}$  yr. =  $2\frac{11}{12} \times \frac{6}{100} \times \$720 = \$109.80$ .

The amount is  $\$720 + \$109.80 = \$829.80$ .

## EXERCISE 57

Find the interest and amount of:

1. \$100 for 1 yr. 4 mo. at 6%.
2. \$125 for 6 yr. 1 mo. 20 da. at 7%.
3. \$150 for 5 yr. 9 mo. 11 da. at 7%.
4. \$50 for 4 yr. 11 mo. 10 da. at 6%.
5. \$1000 for 5 mo. 10 da. at 7%.
6. \$350 for 3 yr. 9 mo. at 7%.
7. \$1500 for 2 mo. at 6%.
8. \$25 for 1 yr. at 6%.
9. \$1200 for 2 yr. 6 mo. at 5%.
10. \$500 for 2 yr. 3 mo. 15 da. at 4%.

252. A *short method* of computing interest at 6% is based on the year of 12 mo. of 30 da. each. This method is sometimes called the 6% method.

The interest on \$1 for 1 yr. at 6% = \$0.06.  
 The interest on \$1 for 1 mo. at 6% =  $\frac{1}{12}$  of \$0.06 = \$0.005.  
 The interest on \$1 for 1 da. at 6% =  $\frac{1}{360}$  of \$0.005 = \$0.000 $\frac{1}{4}$ .

*Ex.* Find the interest on \$250 for 2 yr. 4 mo. 12 da. at 6%.

The interest on \$1 for 2 yr. at 6% =  $2 \times \$0.06$  = \$0.12.  
 The interest on \$1 for 4 mo. at 6% =  $4 \times \$0.005$  = \$0.02.  
 The interest on \$1 for 12 da. at 6% =  $12 \times \$0.000\frac{1}{4}$  = \$0.002.  
 $\therefore$  the interest on \$1 for 2 yr. 4 mo. 12 da. at 6% = \$0.142.  
 $\therefore$  the interest on \$250 for 2 yr. 4 mo. 12 da. =  $250 \times \$0.142$  = \$35.50.

253. To find the interest at 5%, subtract  $\frac{1}{6}$  of the interest at 6%; at 7%, add  $\frac{1}{6}$  of the interest at 6%, etc.

## EXERCISE 58

1. By the 6% method find the interest on \$100 for 2 yr. 3 mo. 10 da. at 4%; at 4 $\frac{1}{2}$ %; at 6 $\frac{1}{2}$ %; at 7 $\frac{1}{2}$ %; at 3%; at 3 $\frac{1}{2}$ %.

Find the interest on:

2. \$325 for 1 yr. 2 mo. at 6%.
3. \$450 for 2 yr. 3 mo. 14 da. at 5 $\frac{1}{2}$ %.
4. \$315.75 for 2 mo. 15 da. at 8%.
5. \$2000 for 30 da. at 6%.
6. \$115.50 for 3 mo. 10 da. at 7 $\frac{1}{2}$ %.
7. \$387.50 for 6 mo. at 5%.
8. \$524.70 for 60 da. at 6%.
9. \$97.30 for 3 mo. 10 da. at 7%.
10. \$80.60 for 1 yr. 6 mo. 15 da. at 3%.

254. **Exact Interest.** To find the exact interest we must take the exact number of days between dates and reckon 365 da. to a year. Exact interest is used by the United States government, by some banks, and to some extent in other business transactions.

*Ex.* Find the exact interest on \$2500 from April 10 to Sept. 5 at 5%.

148 = the number of days from April 10 to Sept. 5.

$\therefore$  the interest on \$2500 for 148 da. at 5% =  $\frac{5 \times 148 \times \$2500}{100 \times 365}$  = \$50.68.

## EXERCISE 59

Find the exact interest on :

1. \$575 from July 5 to Sept. 5 at 7%.
2. \$125 from Jan. 1 till Nov. 1 at 6%.
3. \$10000 from March 10 till June 1 at 5%.
4. \$375.30 from April 25 till Aug. 1 at 6%.
5. Find the amount of \$375 at 6% exact interest from Nov. 11, 1903, till July 27, 1905.
6. May 10, 1903, \$500 is loaned at 6%. Find the amount due Sept. 1, 1905, exact interest.

7. If \$500 is loaned at 6% on July 28, 1905, when will it amount to \$720?

8. What is the difference between the exact interest and the common interest on \$1000 from July 1 till Nov. 1 at 6%? If the exact number of days between dates and 360 days to the year are taken, how much does the common interest differ from the exact interest?

9. Show that the difference between the common interest and the exact interest for a fractional part of a year is  $\frac{1}{7\frac{1}{2}}$  of the former and  $\frac{1}{7\frac{1}{2}}$  of the latter.

10. Hence, show that exact interest for a fractional part of a year may be obtained by subtracting  $\frac{1}{7\frac{1}{2}}$  part from the common interest, and the common interest may be obtained from the exact interest by adding  $\frac{1}{7\frac{1}{2}}$  part of itself.

Exact interest is the fairest, but on account of its inconvenience without tables is not generally used.

255. The following is a section of an interest table for the year of 365 da. at 6%:

DAYS	1000	2000	3000	4000	5000	6000	7000	8000	9000
60	9.863	19.726	29.589	39.452	49.315	59.178	69.041	78.904	88.767
61	10.027	20.055	30.082	40.110	50.137	60.164	70.192	80.219	90.247
62	10.192	20.384	30.575	40.767	50.959	61.151	71.342	81.534	91.726
63	10.356	20.712	31.068	41.425	51.781	62.137	72.493	82.849	93.205
64	10.521	21.041	31.562	42.082	52.603	63.123	73.644	84.164	94.685
65	10.685	21.370	32.055	42.740	53.415	64.110	74.795	85.479	96.164
66	10.849	21.699	32.548	43.397	54.247	65.096	75.945	86.795	97.644
67	11.014	22.027	33.041	44.055	55.068	66.082	77.096	88.110	99.123
68	11.178	22.356	33.534	44.712	55.890	67.068	78.947	89.425	100.603
69	11.342	22.685	34.027	45.370	56.712	68.055	79.397	90.740	103.562
70	11.507	23.014	34.521	46.027	57.534	69.041	80.548	92.055	103.562
71	11.671	23.342	35.014	46.685	58.356	70.027	81.699	93.370	105.041
72	11.836	23.671	35.507	47.342	59.178	71.014	82.849	94.685	106.521
73	12.000	24.000	36.000	48.000	60.030	72.000	84.000	96.000	108.000
74	12.164	24.329	36.493	48.658	60.822	72.986	85.151	97.315	109.479
75	12.329	24.658	36.986	49.315	61.644	73.973	86.301	98.630	110.959
76	12.493	24.986	37.479	49.973	62.466	74.959	87.452	99.945	112.438
77	12.658	25.315	37.973	50.630	63.288	75.945	88.603	101.260	113.918
78	12.822	25.644	38.466	51.288	64.110	76.932	89.753	102.575	115.397
79	12.986	25.973	39.959	51.945	64.932	77.918	90.904	103.890	116.877
80	13.151	26.301	39.452	52.603	65.753	78.904	92.055	105.205	118.356

  

YEARS	1000	2000	3000	4000	5000	6000	7000	8000	9000
1	60	120	180	240	300	360	420	480	540
2	120	240	360	480	600	720	840	960	1080
3	180	360	540	720	900	1080	1260	1440	1620
4	240	480	720	960	1200	1440	1680	1920	2160
5	300	600	900	1200	1500	1800	2100	2400	2700
6	360	720	1080	1440	1800	2160	2520	2880	3240

*Ex.* By the use of the table find the interest on \$4650 for 2 yr. 67 da. at 6%.

for 2 yr. for 67 da.

The interest on \$4000 = \$480 + \$44.06

The interest on 600 = 72 + 6.61

The interest on 50 = 6 + 0.55

The interest on \$4650 = \$558 + \$51.22 = \$609.22.

## EXERCISE 60

By the use of the table find the interest on:

1. \$500 for 65 da.
2. \$1000 for 60 da.
3. \$5225 for 73 da.
4. \$10575 for 1 yr. 60 da.
5. \$1846 for 2 yr. 80 da.
6. \$1710 for 75 da.
7. \$1250 for 63 da.
8. \$2120 from July 2 till Sept. 5.
9. \$648.60 from Jan. 10 till March 15.
10. \$1410 from May 1 till July 10.

**256.** In any problem in interest there are four elements involved, the **principal**, the **rate**, the **time** and the **interest**. When any three of these are given, the other can be found. As indicated above, the practical business problem is to find the interest when the principal, rate and the time are given. However, the principles involved in the following illustrative examples are frequently met with in business:

*Ex. 1.* What principal will produce \$72 interest in 1 yr. 6 mo. at 6%?

*Solution.* Let  $x$  = the principal.

Then  $\frac{1}{2} \times 6\%$  of  $x = \$72$ .

$$\therefore x = \frac{2 \times \$72}{3 \times 0.06} = \$800.$$

*Ex. 2.* At what rate will \$800 produce \$72 interest in 2 yrs.?

*Solution.* Let  $x\%$  = the rate.

Then  $x\% \times 2$  of \$800 = \$72.

$$\therefore x\% = \frac{\$72}{2 \times \$800} = \frac{3}{200} = 1\frac{1}{2}\%$$

*Ex. 3.* In what time will \$1000 produce \$70 interest at 4%?

*Solution.* Let  $x$  = the time.

Then  $x \times 4\%$  of \$1000 = \$70.

$$x = \frac{\$70}{0.04 \times \$1000} = \frac{7}{4}$$

$$\therefore x = \frac{7}{4} \text{ yr., or } 1 \text{ yr. } 9 \text{ mo.}$$

*Ex. 4.* What principal will amount to \$1238 in 6 mo. 10 da. at 6%?

*Solution.* Let  $x$  = the principal.

Then  $x + 6\% \times \frac{1}{2}$  of  $x = \$1238$  = the amount.

$$\therefore x = \frac{\$1238}{1 + 0.06 \times \frac{1}{2}} = \$1200.$$

## EXERCISE 61

Find the rate at which:

1. \$750 will produce \$67.50 interest in 1 yr. 6 mo.
2. \$2000 will produce \$105 interest in 9 mo.

Find the time in which:

3. \$250 will produce \$25 interest at 5%.
4. \$1200 will produce \$90 interest at 6%.

5. \$850 will produce \$106.25 at 5%.  
 6. \$2000 will produce \$105 at 7%.

What principal will produce:

7. \$108 interest in 1 yr. 6 mo. at 6%?  
 8. \$61.25 interest in 2 yr. 6 mo. at 7%?  
 9. \$262.50 interest in 1 yr. 6 mo. at 5%?

What principal will amount to:

10. \$575 in 2 yr. 6 mo. at 6%?  
 11. \$1050 in 1 yr. at 5%?  
 12. \$1570 in 1 yr. 2 mo. at 4%?  
 13. A man with \$25000 invested in his business makes  $12\frac{1}{2}\%$  profit annually. He sells out and invests the \$25000 at 5% and works on a salary of \$2000 per annum. Does he make or lose by the change and how much?  
 14. A man invests \$20000 in business and makes \$6000 in one year on his sales. If the total expenses of running the business are \$3500, what rate does he make on his money?  
 15. A house and lot costs \$1800 and rents for \$16 a month. If taxes, insurance and repairs cost \$72 a year, what rate is earned on the investment?  
 16. Jan. 1, 1900, \$450 are deposited in a savings bank at 3%. Find the amount due July 3, 1900.  
 257. Compound Interest. In compound interest the interest is added to the principal at the end of each

interest period. Then the amount becomes the new principal for the next interest period.

Unless otherwise stated, interest is compounded annually, though it may be compounded semiannually, quarterly, etc., by agreement. In most states compound interest cannot be collected by law, but payment of it does not constitute usury.

*Ex.* Find the compound interest on \$500 for 3 yr. 4 mo. 15 da. at 4%.

*Solution.* \$500 = principal first year.

$$\begin{array}{r} 500 \\ 0.04 \\ \hline 20.00 = \text{interest first year.} \\ 500 \end{array}$$

\$520.00 = amount first year = principal second year.

$$\begin{array}{r} 520.00 \\ 0.04 \\ \hline 20.80 = \text{interest second year.} \\ 520 \end{array}$$

\$540.80 = amount second year = principal third year.

$$\begin{array}{r} 540.80 \\ 0.04 \\ \hline 21.63 = \text{interest third year.} \\ 540.80 \end{array}$$

\$562.43 = amount third year = principal fourth year

Interest on \$562.43 for 4 mo. 15 da. at 4% = \$8.44.

\$562.43 + \$8.44 = \$570.87 = amount for 3 yr. 4 mo. 15 da.

$$\begin{array}{r} 570.87 \\ 500 \\ \hline 70.87 = \text{compound interest for 3 yr. 4 mo. 15 da} \end{array}$$

258. The chief use of compound interest is among large investors, such as life insurance companies, building and loan associations, private banking establishments, etc., who wish to compute the income from reinvestment of interest when due. For such work compound interest tables are used.

The following is a section of such a table:

PERIODS	1 PER CENT	1½ PER CENT	2 PER CENT	3 PER CENT	4 PER CENT
1	1.0100000	1.015000	1.020000	1.030000	1.040000
2	1.0201000	1.030225	1.040400	1.060900	1.081600
3	1.0303010	1.045678	1.061208	1.092727	1.124864
4	1.0406040	1.061364	1.082432	1.125509	1.169859
5	1.0510100	1.077284	1.104081	1.159274	1.216653
6	1.0615201	1.093443	1.126162	1.194052	1.265319
7	1.0721353	1.109845	1.148686	1.229874	1.315932
8	1.0828567	1.126493	1.171660	1.266770	1.368569
9	1.0936852	1.143390	1.195093	1.304773	1.423312
10	1.1046221	1.160541	1.218994	1.343916	1.480244
11	1.1156683	1.177949	1.243374	1.384234	1.539454
12	1.1268250	1.195618	1.268242	1.425761	1.601032
13	1.1380932	1.213552	1.293607	1.468534	1.665074
14	1.1494742	1.231756	1.319479	1.512590	1.731676
15	1.1609689	1.250232	1.345868	1.557967	1.800944
16	1.1725786	1.268985	1.372786	1.604706	1.872981
17	1.1843044	1.288020	1.400241	1.652848	1.947901
18	1.1961474	1.307341	1.428246	1.702433	2.025817
19	1.2081089	1.326951	1.456811	1.753506	2.106849
20	1.2201900	1.346855	1.485947	1.806111	2.191123

Solution of the above example by means of the tables.

The amount of \$1 for 3 yr. at 4% is \$1.12486.

The amount of \$500 will be  $500 \times \$1.12486 = \$562.43$ .

The example may now be completed by using the tables for simple interest for 4 mo. 15 da., or as on p. 175.

#### EXERCISE 62

1. Find the compound amount and the compound interest of \$2000 for 3 yr. 6 mo. at 4% payable semi-annually.

*Note.* It is evident that if interest is 4% compounded semiannually for 3 yr. 6 mo., the amount is the same as if the rate is 2% compounded annually for 7 yr.

2. What is the difference between the simple and compound interest on \$750 for 2 yr. 7 mo. at 5%?

3. Find the amount of \$5000 compounded annually for 4 yr. at 4%.

4. Find the amount of \$3500 compounded semiannually for 5 yr. at 3%; at 4%; at 6%.

**259. Annual Interest.** If a note or other written agreement contains the expression "with annual interest" or "with interest payable annually," the interest is due at the end of each year, and if not then paid, will draw simple interest until paid. Such a note or agreement is said to bear **annual interest**. The same principle is applied when the interest is payable semiannually, quarterly, etc.

As in the case of compound interest, in most states annual interest cannot be collected by law, but does not constitute usury.

*Ex.* George Reed borrowed \$1500 at 7%, and agreed to pay interest annually. Having paid no interest, he wishes to settle at the end of 3 yr. 3 mo. 20 da. What is the amount due?

The simple interest on \$1500 for 3 yr. 3 mo. 20 da. at 7% = \$347.08.  
Then, in addition to this, the simple interest on

\$105 at 7% for 2 yr. 3 mo. 20 da.

\$105 at 7% for 1 yr. 3 mo. 20 da.

\$105 at 7% for 3 mo. 20 da.

or on

\$105 at 7% for 3 yr. 11 mo. = \$28.79.

Hence, principal borrowed	= \$1500
Simple interest	= 347.08
Simple interest on interest not paid when due	= 28.79
∴ total amount due at annual interest	= \$1875.87

## EXERCISE 63

1. What is the difference between the simple interest and the annual interest in the preceding example? How long is it after the date on which the money is borrowed before the annual interest begins to differ from the simple interest?

2. What is the difference between the compound interest and the annual interest in the preceding example? How long is it before the compound interest begins to differ from the simple interest? from the annual interest?

3. Find what \$2500 will amount to in 4 yr. 10 mo. 18 da. at 5% simple interest and at 5% compound interest.

4. Sept. 1, 1896, a man borrows \$500 at 6% interest, payable annually. If nothing is paid until Dec. 1, 1901, how much is due?

5. Notes are sometimes given with interest coupons attached. These coupons draw interest, frequently at a higher rate than the note itself, if not paid when due. A coupon note for \$2200 is issued July 1, 1896, at 6% interest. Nothing is paid until July 1, 1902. Find the amount at that date, the coupons bearing 7% if not paid when due.

**260. Promissory Notes.** A promissory note is a written promise to pay to a certain person named in the note a specified sum of money on demand, or at a specified time.

**261.** A promissory note is negotiable, *i.e.* can be transferred from one owner to another by indorsement when it is made payable *to the order of* a definite person, or *to bearer*.

The following is a common form of a negotiable promissory note:

\$1000.	Detroit, Mich., March 27, 1904.
Sixty days after date I promise to pay to the order of Henry James one thousand and $\frac{no}{100}$ dollars, value received, with interest at 6%.	
No. 45. Due -----	Andrew Johnson.

Andrew Johnson is the **maker** of this note, Henry James is the **payee**, and \$1000 is the **face**.

**262.** The above note would be non negotiable if the words "the order of" were omitted. In that case the note would be payable to Henry James only.

**263.** If a note is sold by the payee, he must indorse it by writing his name across the back.

**264.** There are three common forms of indorsement:

(1) **In blank**, the indorser simply writing his name across the back, thus making the note payable to the bearer.

INDORSEMENT IN BLANK

Henry James.

(2) **In full**, the indorser directing the payment to the order of a definite person.

INDORSEMENT IN FULL

Pay to the order of Sibley and Hatch.  
Henry James.



(3) **Qualified**, the indorser avoiding responsibility by writing the words "without recourse" over his name.

QUALIFIED INDORSEMENT

*Pay to the order of  
Sibley and Hatch.  
Without recourse.*

*Henry James.*

OR SIMPLY

*Without recourse.*

*Henry James.*

265. By indorsing a note either in blank or in full, the payee becomes responsible for its payment if the maker fails to pay it. The indorsement in full will insure greater safety since in this case the note is made payable to a definite person.

266. A note made payable to Henry James, or bearer, is also negotiable, but does not need indorsement.

267. The custom of allowing three days of grace in the payment of a note has been abolished in many states and is rarely used in others.

268. The note on page 179 will mature March 27 + 60 days, or May 26, if no grace is allowed. It will mature March 27 + 63 days, or May 29, if grace is allowed. In states where grace is allowed this is indicated by writing in the note, "Due May 26/29."

269. In most states a note falling due on Sunday or a legal holiday must be paid the preceding business day.

EXERCISE 64

1. Write a 30-day promissory note for \$500, payable to the order of James Black, bearing the legal rate of interest in your state. By indorsement make the note payable to Henry Wood.

2. What is the maximum contract rate of interest in your state? What is the penalty for usury?

3. Write a 60-day promissory note for \$100, with yourself as maker and Charles Jennings as payee, the note bearing the date May 5, 1903. If the note is payable to Charles Jennings, or bearer, in what way may it be transferred? If made payable to Charles Jennings, or order, in what way may it be transferred?

4. Find the date of maturity of the note required in Ex. 3. Add days of grace if they are used in your state.

5. Find the interest on the above note.

6. \$250.

YPSILANTI, MICH., April 11, 1905.

Ninety days after date I promise to pay to the order of William Jordan two hundred fifty and  $\frac{no}{100}$  dollars, value received, with interest at 5%.

L. M. DAVIS.

When is the above note due? What is the amount at maturity? Who pays the note? Who receives the money? Who receives the note when paid? What indorsement is necessary if the note is sold to John Brown?

270. **Partial Payments.** Frequently the maker of a note, not being able to pay the whole amount at one time, makes several **partial payments**, which are indorsed on the back of the note with the date of payment.

*Ex.* April 6, 1902, a man buys a farm for \$7500, paying \$5000 in cash, and giving a note for the remainder at 6%, with the privilege of paying all or part of it any time

within 3 yr. The following payments are made and indorsed on the note by the payee:

Oct. 1, 1903, \$ 500  
 April 1, 1904, \$ 50  
 Oct. 1, 1904, \$1000

What amount is due April 6, 1905?

Face of note . . . . . = \$2500.00

	yr.	mo.	da.
Oct. 1, 1903 =	1903	10	1
April 6, 1902 =	1902	4	6
	1	5	25

The interest on \$2500 for 1 yr. 5 mo. 25 da. at 6% = \$ 222.92  
 Amount due Oct. 1, 1903 . . . . . = 2722.92  
 Payment . . . . . = 500.00  
 Balance due = new principal . . . . . = \$2222.92

	yr.	mo.	da.
Oct. 1, 1904 =	1904	10	1
Oct. 1, 1903 =	1903	10	1
	1		

The interest on \$2222.92 for 1 yr. at 6% . . . . . = \$ 133.38  
 Amount due Oct. 1, 1904 . . . . . = 2356.30  
 Payment April 1, 1904 (less than interest due  
 April 1, viz. \$66.69) . . . . . = 50.00  
 Payment Oct. 1, 1904 . . . . . = 1000.00  
 Balance due = new principal . . . . . = \$1306.30

	yr.	mo.	da.
April 6, 1905 =	1905	4	6
Oct. 1, 1904 =	1904	10	1
		6	5

The interest on \$1306.30 for 6 mo. 5 da. . . . . = 40.28  
 ∴ the amount due April 6, 1905, is . . . . . = \$1346.58

## CHECK DIFFERENCE BETWEEN DATES

	PARTIAL DIFFERENCES					
	yr.	mo.	da.	yr.	mo.	da.
Date of settlement	1905	4	6	1	5	25
Date of note	1902	4	6	1		
Difference in time =	3				6	5
				2	11	30 = 3 yr.

271. The above example is solved by the **United States Rule of Partial Payments**, which is the legal method in most states. By this method the amount of the note is found to the time when the payment, or the sum of the payments, equals or exceeds the interest due. From this amount the payment, or sum of the payments, is subtracted. This operation is repeated to the time of the next payment and so on.

272. It will be seen that three cases may arise under this rule:

(1) The payment may be exactly equal to the interest due. In this case the payment simply cancels the interest, and the balance due remains the same as the original principal.

(2) The payment may be greater than the interest due. In this case the balance due is diminished by the amount the payment exceeds the interest due.

(3) The payment may be less than the interest due. In this case if the unpaid balance of the interest were added, the principal would be increased, and the debtor would be paying more interest than if he had made no payment at all. Therefore, when the payment is less than the interest due, no change is made at that time in the principal; but the interest is reckoned to the date when the sum of the payments does exceed the interest due, and then the sum of these payments is subtracted.

273. The following method of solving problems in partial payments, called **The Merchants' Rule**, is used

among many business men when the note runs for one year or less:

*Ex.* Sept. 1, 1904, a merchant takes a note for \$327.50 from a customer in payment for some goods. The note is to run for 1 yr. at 6%. During the year the following payments are made: Nov. 1, 1904, \$75; April 1, 1905, \$100; Aug. 1, 1905, \$50. Find the amount due Sept. 1, 1905.

The amount of \$327.50 for 1 yr. at 6% =	\$347.15
The amount of \$75 for 10 mo. at 6% =	\$ 78.75
The amount of \$100 for 5 mo. at 6% =	102.50
The amount of \$50 for 1 mo. at 6% =	<u>50.25</u>
Balance due Sept. 1, 1905	\$115.65

274. By this method the amount of the note is found from the date of the note to the time of settlement. The amount of each payment is also found from its date to the time of settlement. The sum of the amounts of the payments is then subtracted from the amount of the principal.

275. Some states, *e.g.* New Hampshire and Vermont, have rules of their own for solving problems in partial payments. In such states it is left for the teacher to present the rule.

#### EXERCISE 65

1. Which of the above methods is better for the debtor? Which is better for the creditor?

2. \$325  
CLEVELAND, OHIO, May 15, 1896.  
Three years after date I promise to pay W. W. Johnson, or order, three hundred twenty-five dollars, value received, with interest at 7%.

HENRY GEORGE.

Indorsements: May 15, 1897, \$22.75; May 15, 1898, \$22.75; June 29, 1900, \$100; June 12, 1902, \$50. Find the amount due June 12, 1904.

3. Jan. 30, 1897, Arthur Ross borrowed \$150; May 10, 1897, \$125; and Dec. 10, 1900, \$100, all at 6% interest. He paid Oct. 1, 1901, \$100; and Dec. 10, 1902, \$100. Find the amount due March 10, 1903.

4. March 1, 1897, a man buys a farm for \$6000. He pays \$3000 in cash and gives a note for the remainder at 6%. He makes a payment of \$500 on each of the following dates: March 1, 1898; March 1, 1900; Sept. 1, 1900; and March 1, 1901. Find the amount due March 1, 1902.

5. \$3500. YPSILANTI, MICH., Aug. 15, 1899.

Five years after date I promise to pay John Robinson, or order, three thousand five hundred dollars, value received, with interest at 6%.

JAMES ROWE.

Indorsements: Nov. 5, 1902, \$300; March 14, 1904, \$200; May 14, 1905, \$2000. Find the amount due Aug. 14, 1905.

6. A note for \$5000, dated March 1, 1903, and payable two years from date, with interest at 5%, has on it the following indorsements: April 1, 1903, \$500; June 1, 1903, \$500; Sept. 1, 1903, \$200; and May 1, 1904, \$500. Find the amount due March 1, 1905.

7. Dec. 10, 1903, a merchant takes a note for \$260 to run 1 yr. at 7%. During the year the following payments are made: Feb. 1, 1904, \$50; June 21, 1904, \$25; Oct. 10, 1904, \$100. Find the amount due Dec. 10, 1904.