

Practise, Apply, Solve 2.12, page 191

1. (a) 0.008 164 85 (b) 0.005 750 04
(c) 0.003 273 74 (d) 0.002 243 63
(e) 0.000 293 42 (f) 0.002 061 38
2. (a) 0.005 750 04 (b) 0.006 961 06
(c) 0.008 084 82 (d) 0.009 758 79
3. Answers will vary.
4. (a) \$646.18/month is equivalent to 646.18×12 or \$7754.16 per year, while \$161.55/week is equivalent to 161.55×52 or \$8400 per year.
(b) \$149.12
(c) By making weekly payments of \$149.12, the loan is repaid in 1040.5 weeks. By making monthly payments of \$646.18, the loan is repaid in 20 years or 1040 weeks. Changing the payment frequency has little or no effect on the time needed to repay the loan.
(d) Payment amount
5. *Example:* Interest on Canadian mortgages can be compounded at most semiannually. However, payments are generally made monthly, weekly, or biweekly, which does not coincide with the interest period.
6. (a) \$651.90, \$701.51 (b) \$27 207.60
(c) Shorten the amortization period of your loan by increasing the payment amount.
7. (a) 152.35 months, 303.84 payment periods or 151.92 months, 657.34 payment periods or 151.69 months
(b) very little effect
8. (a) 132.94 months
(b) between \$4788.60 to \$4789.81 depending on method and accuracy used
9. (a) \$1282.96
(b) end of year 1: \$158 049.86; end of year 2: \$155 928.38; end of year 3: \$153 620.55; end of year 4: \$151 109.99; end of year 5: \$148 378.88
(c) principal paid \$11 621.12; interest paid \$65 356.48
(d) total interest paid \$224 888.23; total cost of home \$427 888.23

10. (a) monthly payment: \$1200.78; save in total interest: \$24 651.48
(b) About 49 months (over 4 years)
11. (a) \$1411.26; \$1552.38
(b) end of year 1: \$158 049.86; end of year 2: \$154 327.75; end of year 3: \$148 518.07; end of year 4: \$142 198.01; end of year 5: \$135 322.74
(c) 104 months
12. (a) \$735.50
(b)

Pay. #	Pay.	Int. Paid (0.56%/a)	Princ. Paid	Out. Bal.
0				\$49200.00
1	\$735.50	\$275.52	\$459.98	\$48740.02
2	\$735.50	\$272.94	\$462.56	\$48277.46
83	\$735.50	\$8.37	\$727.13	\$767.94
84	\$735.50	\$4.30	\$731.20	\$36.74

- (c) principal: \$489.68; interest: \$245.82
(d) principal: \$605.17; interest: \$130.33
(e) \$74 081.98 (f) \$73 295.61
13. Answers will vary.
14. about 533 payments or 22 years and 2.5 months
15. 65 fewer months; \$49 851.14
16. (a) monthly payment: \$761.33; balance: \$75 495.39
(b) \$1363.85 (c) 79.14%
(d) Because interest rates increased so dramatically, when people came to renew their mortgages, the new payment required to maintain the mortgage was beyond what they could afford.
17. cash back option
18. Answers will vary.
19. Interest rate changed; amount borrowed; term (length) of the mortgage.