

Practice 2.6, page 144

1. (a) $6 + 11 + 16 + 21 + 26 + 31 + 36 + 41 + 46 + 51 = 285$
 (b) $1 + 8 + 27 + 64 + 125 + 216 + 343 + 512 + 729 + 1000 = 3025$
 (c) $3 + 6 + 12 + 24 + 48 + 96 + 192 + 384 + 768 + 1536 = 3069$
 (d) $-2 + (-7) + (-12) + (-22) + (-27) + (-32) + (-37) + (-42) + (-47) = -245$
 (e) $1100 + 1210 + 1331 + 1464.1 + 1610.51 + 1771.56 + 1948.72 + 2143.59 + 2357.95 + 2593.74 = 17\,531.17$
 (f) $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55$
 (g) $105 + 110.25 + 115.76 + 121.55 + 127.63 + 134.01 + 140.71 + 147.75 + 155.13 + 162.89 = 1320.68$
 (h) $25 + 29 + 33 + 37 + 41 + 45 + 49 + 53 + 57 + 61 = 430$
2. (a) 6, 17, 33, 54, 80, 111, 147, 188, 234, 285
 (b) 1, 9, 36, 100, 225, 441, 784, 1296, 2025, 3025
 (c) 3, 9, 21, 45, 93, 189, 381, 765, 1533, 3069
 (d) -2, -9, -21, -38, -60, -87, -119, -156, -198, -245
 (e) 1100, 2310, 3641, 5105.1, 6715.61, 8487.17, 10 435.89, 12 579.48, 14 937.43, 17 531.17
 (f) 1, 3, 6, 10, 15, 21, 28, 36, 45, 55
 (g) 105, 215.25, 331.01, 452.56, 580.19, 714.20, 854.91, 1002.66, 1157.79, 1320.68
 (h) 25, 54, 87, 124, 165, 210, 259, 312, 369, 430

Practise, Apply, Solve 2.7, page 151

1. (a) 2.158 925
 (b) 1.973 823
 (c) 2.032 794
 (d) 1.348 850
 (e) 4.247 851
 (f) 10.401 270
2. (a) 53 175.25
 (b) 11 433.50
 (c) 47 898.65
 (d) 1 247 260.00
3. (a) $i = \frac{0.12}{4} = 0.03 = 3\%, n = 3 \times 4 = 12$
 (b) $i = \frac{0.065}{1} = 0.065 = 6.5\%, n = 10 \times 1 = 10$
 (c) $i = \frac{0.18}{12} = 0.015 = 1.5\%, n = 7 \times 12 = 84$
 (d) $i = \frac{0.13}{52} = 0.0025 = 0.25\%, n = 5 \times 52 = 260$

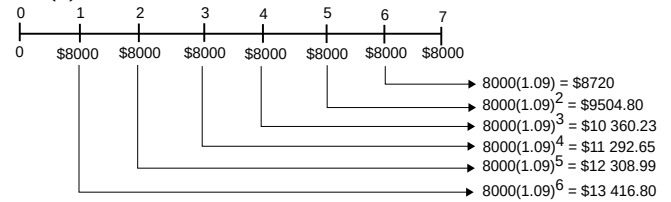
4. (a) $S_{13} = \frac{100(1.07^{13} - 1)}{1.07 - 1} = 2014.06$

(b) $S_{25} = \frac{3200(1.055^{25} - 1)}{1.055 - 1} = 163\,688.28$

(c) $S_{41} = \frac{300(1.02^{41} - 1)}{1.02 - 1} = 18\,783.01$

5. Same as question 4.

6. (a) i.



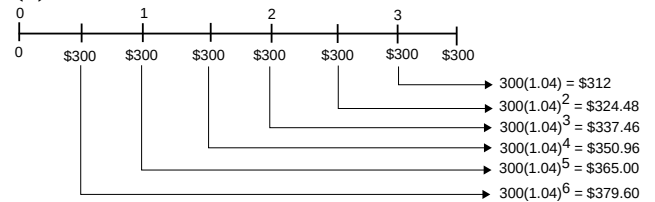
\$13 416.80, \$12 308.99, \$11 292.65, \$10 360.23, \$9504.80, \$8720, \$8000

ii. $FV = 8000 + 8000(1.09) + 8000(1.09)^2 + 8000(1.09)^3 + 8000(1.09)^4 + 8000(1.09)^5 + 8000(1.09)^6$

iii.

$$S_7 = \frac{a(r^7 - 1)}{r - 1} = \frac{8000(1.09^7 - 1)}{1.09 - 1} = \$73\,603.48$$

(b) i.



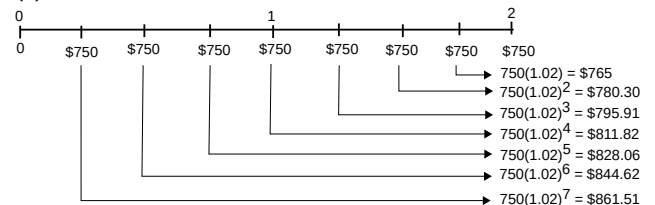
\$379.60, \$365, \$350.96, \$337.46, \$324.48, \$312, \$300

ii. $FV = 300 + 300(1.04) + 300(1.04)^2 + 300(1.04)^3 + 300(1.04)^4 + 300(1.04)^5 + 300(1.04)^6$

iii.

$$S_7 = \frac{a(r^7 - 1)}{r - 1} = \frac{300(1.04^7 - 1)}{1.04 - 1} = \$2369.49$$

(c) i.



\$861.51, \$844.62, \$828.06, \$811.82, \$795.91, \$780.30, \$765, \$750

ii. $FV = 750 + 750(1.02) + 750(1.02)^2 + 750(1.02)^3 + 750(1.02)^4 + 750(1.02)^5 + 750(1.02)^6 + 750(1.02)^7$