

Practise, Apply, Solve 1.3U, page 32

- (a) 3, 12, 21, 30, 39
 - (b) 6, 24, 96, 384, 1536
 - (c) 36, 18, 9, 4.5, 2.25
 - (d) 22, 20, 18, 16, 14
 - (e) 3, 4, 12, 48, 576
 - (f) -5, 7, 2, 9, 11
- (a) 4, 9, 14, 19, 24
 - (b) -3, -8, -18, -38, -78
 - (c) 8, 4, 2, 1, 0.5
 - (d) 4, 16, 256, 65 536, 4 294 967 296
 - (e) $5, \frac{5}{2}, \frac{5}{6}, \frac{5}{24}, \frac{1}{24}$
 - (f) 1, 2, 2, 4, 8
 - (g) 2, -1, 1, 0, 1
 - (h) 1, 1, -1, -5, -7
- (a) $t_1 = 2, t_{n+1} = t_n + 5$
 - (b) $t_1 = -2, t_{n+1} = -2t_n$
 - (c) $t_1 = 10, t_{n+1} = 0.5 t_n$
 - (d) $t_1 = 2, t_{n+1} = (t_n)^2$
 - (e) $t_1 = 243, t_{n+1} = \frac{t_n}{3}$
 - (f) $t_1 = 34, t_{n+1} = t_n - 9$
- (a) $t_1 = 3, t_n = t_{n-1} + 9$
 - (b) $t_1 = 6, t_n = 4t_{n-1}$
 - (c) $t_1 = 36, t_n = \frac{1}{2}t_{n-1}$
 - (d) $t_1 = 22, t_n = t_{n-1} - 2$
 - (e) $t_1 = 3, t_2 = 4, t_n = (t_{n-1})(t_{n-2})$
 - (f) $t_1 = -5, t_2 = 7, t_n = (t_{n-1}) + (t_{n-2})$
- (a) 85%
 - (b) \$29 750, \$25 287.50, \$21 494.38, \$18 270.22, \$15 529.69
 - (c) $t_1 = \$35\ 000, t_n = 0.85(t_{n-1})$
- (a) $t_1 = 4200, t_n = 0.8(t_{n-1}) + 850$
 - (b) Over time, the number of trees levels off to 4250.
- 369 600
- (a) 3, 5, 7, 9, 11
 - (b) -5, -10, -20, -40, -80
 - (c) 8, 4, 2, 1, 0.5
 - (d) 2, 8, 2, 8, 2
- (a) $t_1 = \$40\ 000, t_n = t_{n-1} + 1250$
 - (b) \$40 000, \$41 250, \$42 500, \$43 750, \$45 000
 - (c) \$51 250, no
- (a) stage 2: $s = 12, l = 6, p = 72$ cm; stage 3: $s = 48, l = 2, p = 96$ cm
 - (b) $s_n = 4 s_{n-1}, s_1 = 3; l_n = \frac{1}{3}l_{n-1}, l_1 = 18; p_n = \frac{4}{3}p_{n-1}, p_1 = 54$
 - (c) 3072
 - (d) 0.0247 cm
 - (e) 404.5 cm
- (a) $t_n = 0.8(t_{n-1}), t_1 = 50$ m
 - (b) 50 m, 40 m, 32 m, 25.6 m, 20.48 m
 - (c) 336.16 m
- Answers will vary.
- 357.14 mg
- (a) 42
 - (b) $t_n = t_{n-1} + 2n, t_1 = 2$
- 8
- (a) $a_n = 1.05a_{n-1} - 50\ 000$
 - (b) $a_{19} = \$0.02$
 - (c) A prize of \$1 000 000 can be awarded even though only \$604 266.05 was invested.
- (a) $t_n = 2t_{n-1}, t_1 = 3500$
 - (b) 112 000
- (a) $t_n = 2t_{n-1}, t_1 = 2$
 - (b) 510
- 12, 18, 36
- 8 h
- general formula
- $t_n = t_{n-1} + n^2, t_1 = 5$
- (a) $t_n = t_{n-1} + 2(n-1), t_1 = 20$
 - (b) 110
 - (c) 530
- 35