

# Linear Patterns Solutions

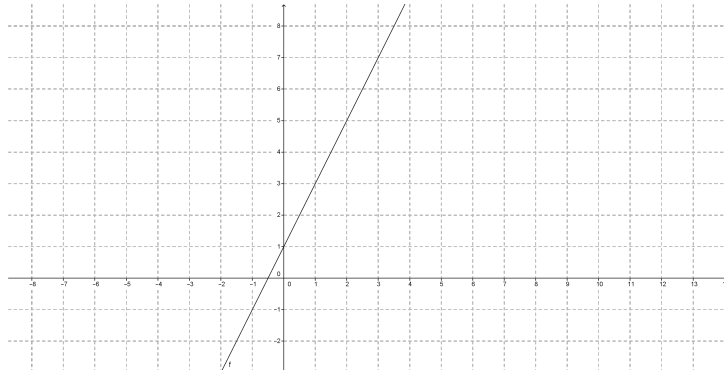
1.
  - i.
    - (a) 14
    - (b) 4
    - (c)  $T_n = 4n + 10$
    - (d)  $T_{10} = 50$
  - ii.
    - (a) 4
    - (b) 6
    - (c)  $T_n = 6n - 2$
    - (d)  $T_{12} = 70$
  - iii.
    - (a) 10
    - (b) 12
    - (c)  $T_n = 12n - 2$
    - (d)  $T_{18} = 214$
  - iv.
    - (a) 19
    - (b) 10
    - (c)  $T_n = 10n + 9$
    - (d)  $T_{35} = 359$
  - v.
    - (a) 0
    - (b) 7
    - (c)  $T_n = 7n - 7$
    - (d)  $T_{100} = 693$
  - vi.
    - (a) 75
    - (b) 9
    - (c)  $T_n = 9n + 66$
    - (d)  $T_{27} = 309$
  - vii.
    - (a) 22
    - (b)  $-2$
    - (c)  $T_n = 24 - 2n$
    - (d)  $T_{50} = -76$
  - viii.
    - (a) 250
    - (b) 30
    - (c)  $T_n = 30n + 220$
    - (d)  $T_{10} = 520$

- ix. (a) 22
- (b) -10
- (c)  $T_n = 32 - 10n$
- (d)  $T_{16} = -128$
- x. (a) -16
- (b) -4
- (c)  $T_n = -12 - 4n$
- (d)  $T_{10} = 50$

2.  $n$ th term =  $4n + 3$ ;  $T_{10} = 43$ ;  $T_{20} = 83$ .

3.  $T_n = -3 + 11n$ ; 15

4. 3, 5, 7, 9, 11;

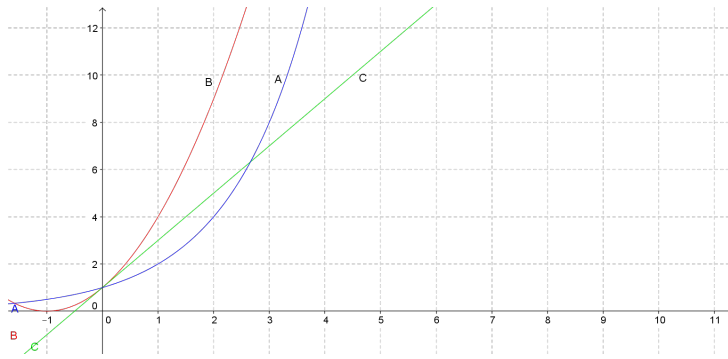


- 5. i. 30
- ii. 105
- iii. 5
- iv. Yes
- v. 21
- vi. Yes, both 21
- vii. 240

Day	Height(cm)
1	4
2	6
3	8
4	10
6	12
8	14
10	16

- 6. i.

- ii. 14
- iii. 29
- iv. 2
- v. *2cmperday*
- vi. The slope of the line equals the rate of the growth of the plant



7.