# Solutions

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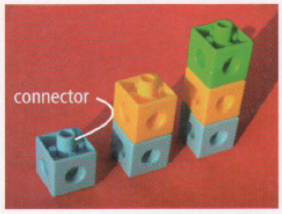
**1.** Cameron measures the heights of stacked linking cubes as shown.

| Number of Cubes, $n$ | Height, $h$ (cm) |
|---|---|
| 1 | 5 |
| 2 | 9 |
| 3 | 13 |
| 4 | 17 |

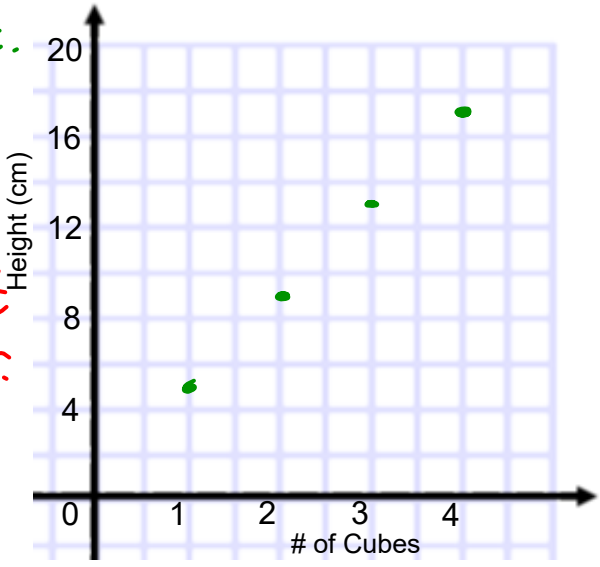



**a)** Cameron lists the ordered pairs as (5, 1), (9, 2), (13, 3), (17, 4). Are the ordered pairs correct? Explain.

**b)** The pattern of heights is modelled with the formula $h = 4n + 1$. What does the number 1 mean? What does the number 4 mean?

a) Not correct. Should be around the other way.

b) One is the height of the connector. Four is the side length of the cube.

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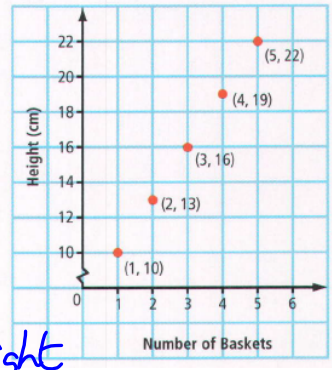
**2.** The heights of up to five stacked baskets are plotted on a grid.

**a)** What information can you get from the graph?

**b)** Describe the pattern of points.

**c)** Develop a formula to calculate the height of any stack of these baskets.

**d)** Define the variables in your formula. Could you use any other letters? Explain.




a) We can tell the height of a given number of baskets.

b) For each added basket the height increases by 3 cm.

c) $h = 7 + 3n$

d) Let $h$ = height of baskets in cm and $n$ = # of baskets

Could use any letters as long as we define them.

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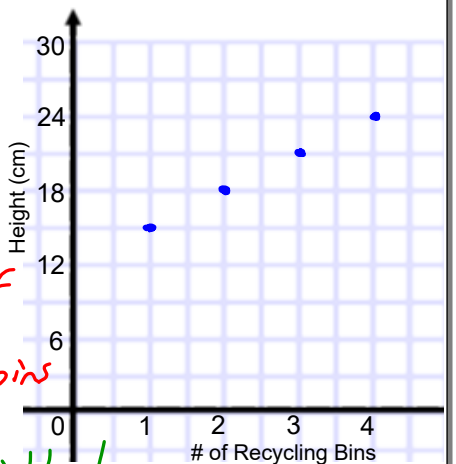
**4.** The height of a stack of recycling bins can be modelled using the formula $h = 12 + 3n$.


**a)** Define each variable.

**b)** Complete a table of values for the heights of one to four bins.

**c)** Plot the ordered pairs on a grid.

**d)** Describe the pattern of points.




a) Let $h$ = height of stack in cm and $n$ = # of recycling bins

b)

| # of bins $n$ | Height $h$ in cm |
|---|---|
| 1 | 15 |
| 2 | 18 |
| 3 | 21 |
| 4 | 24 |

d) For every extra bin the height increases by 3 cm

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