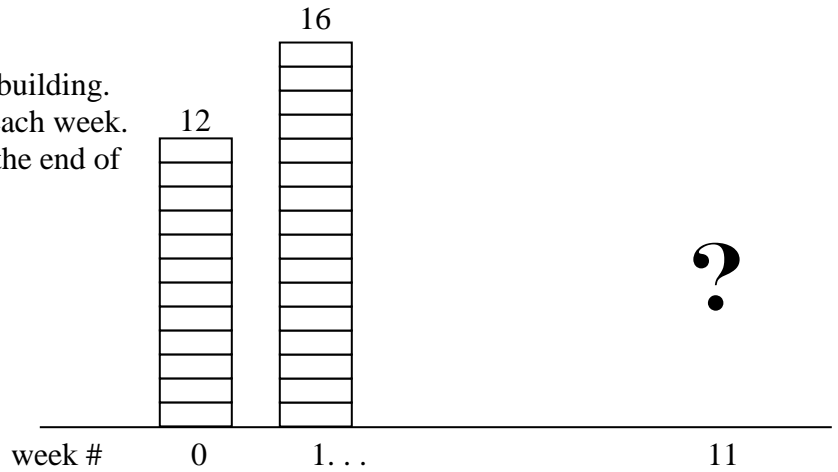
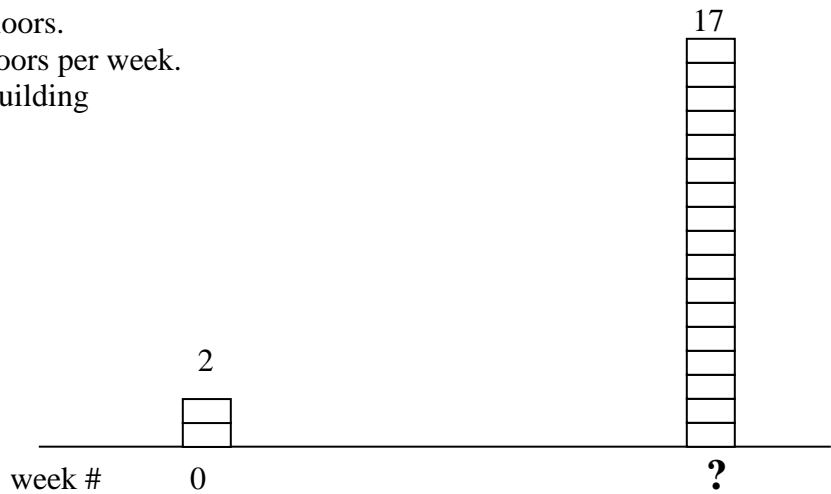


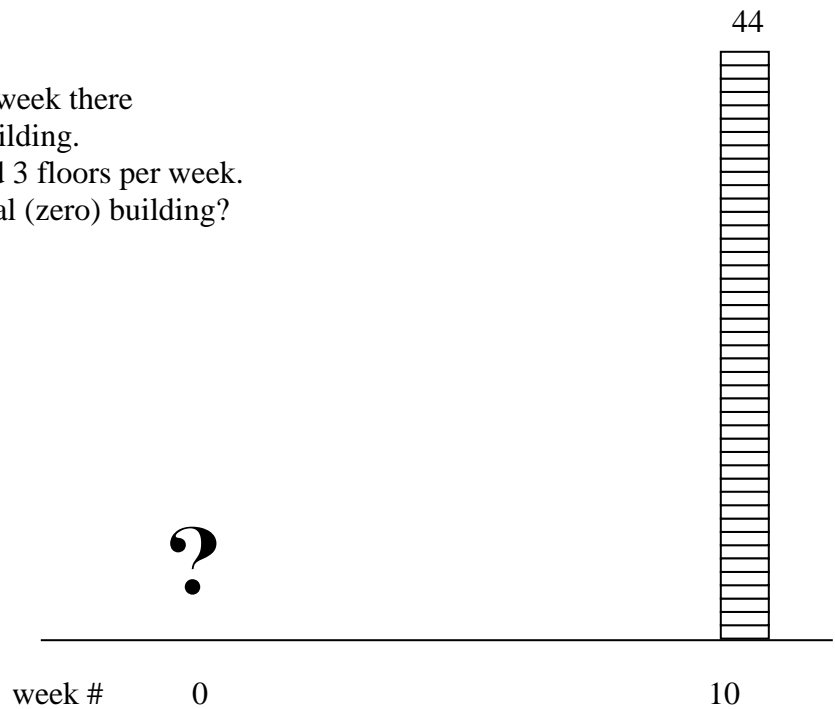
1. There are 12 floors in the initial building.
The workers can build 4 floors each week.
How tall will the building be at the end of the 11th week?



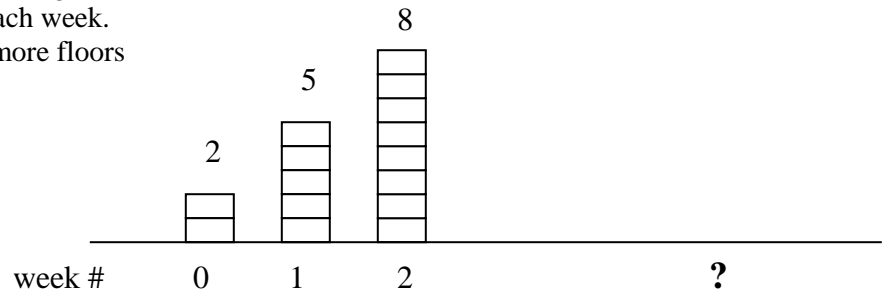
2. The initial building has 2 floors.
The workers can build 3 floors per week.
After what week will the building be 17 floors high?



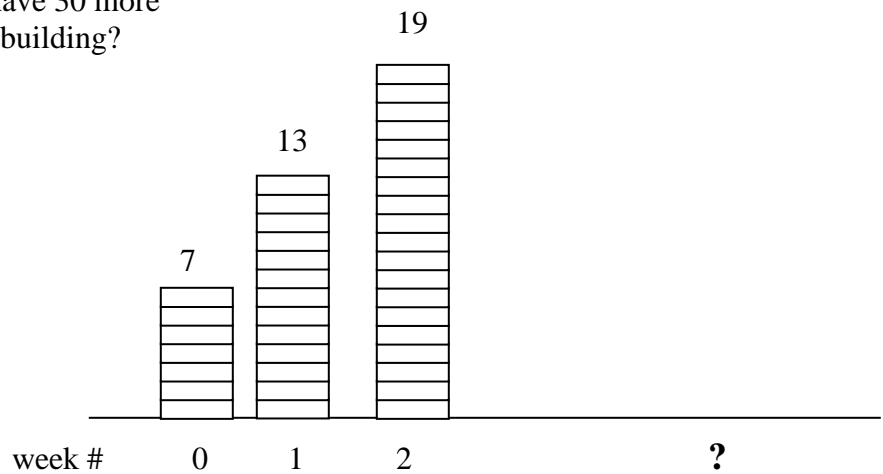
3. At the end of the 10th week there were 44 floors in a building.
The workers can build 3 floors per week.
How tall was the initial (zero) building?



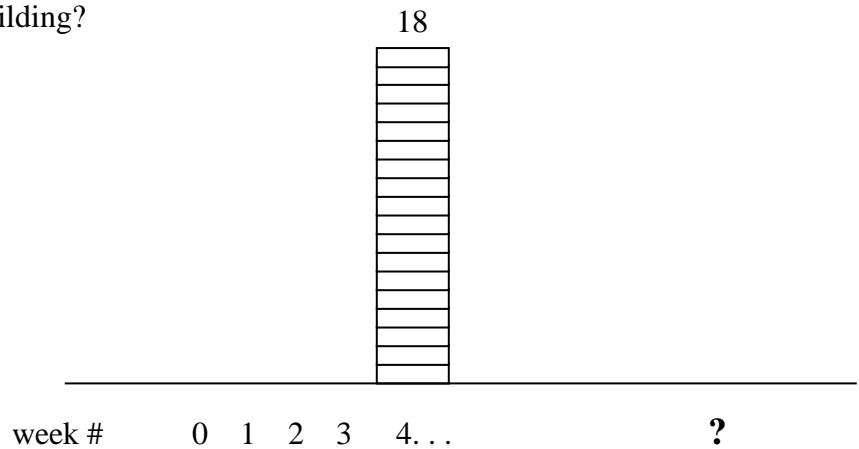
- There are 2 floors in the initial building.
The workers can build 3 floors each week.
When will the building have 15 more floors than the INITIAL building?



- There are 7 floors in the initial building.
The workers can build 6 floors per week.
When will the building have 30 more floors than the INITIAL building?

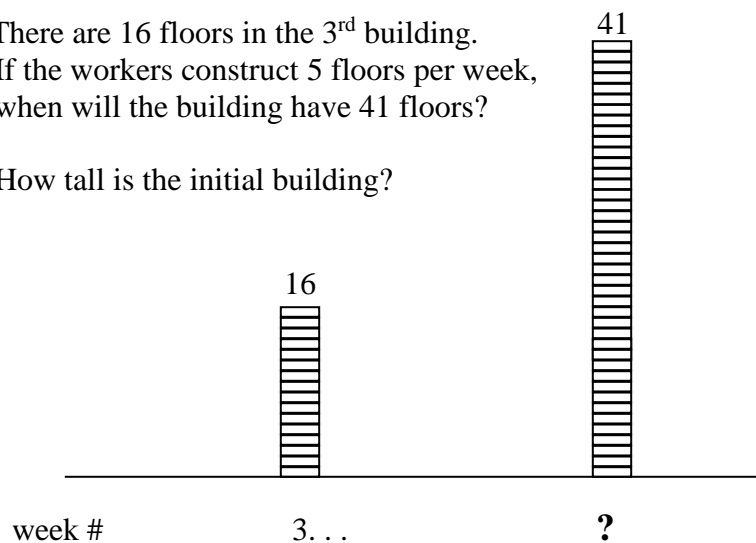


- There are 18 floors in the 4th building.
If the workers can construct 5 floors each week, when will the building have 30 more floors than the 4th building?

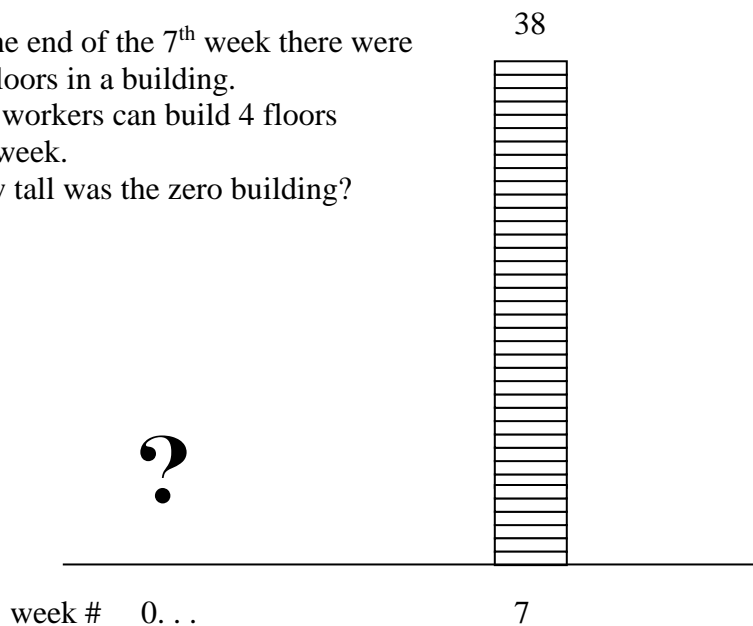


1. There are 16 floors in the 3rd building.
If the workers construct 5 floors per week,
when will the building have 41 floors?

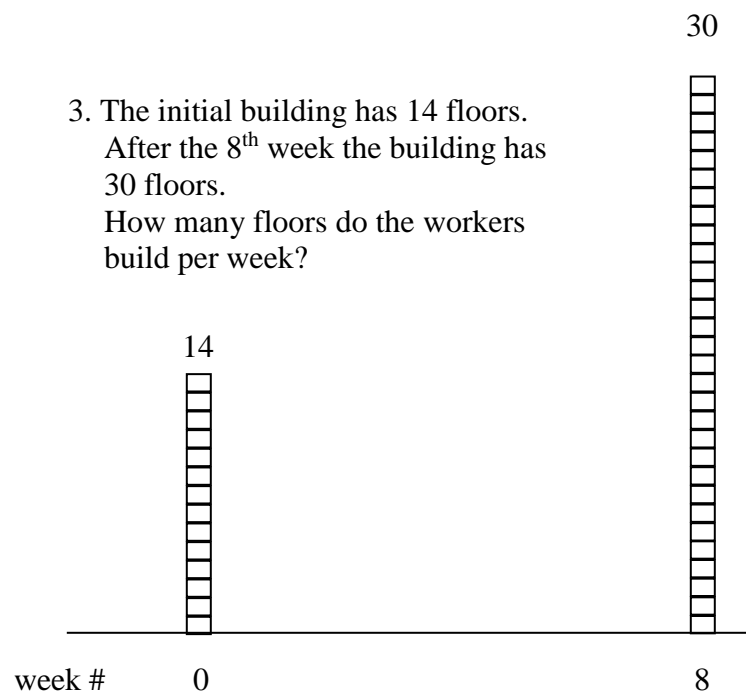
How tall is the initial building?



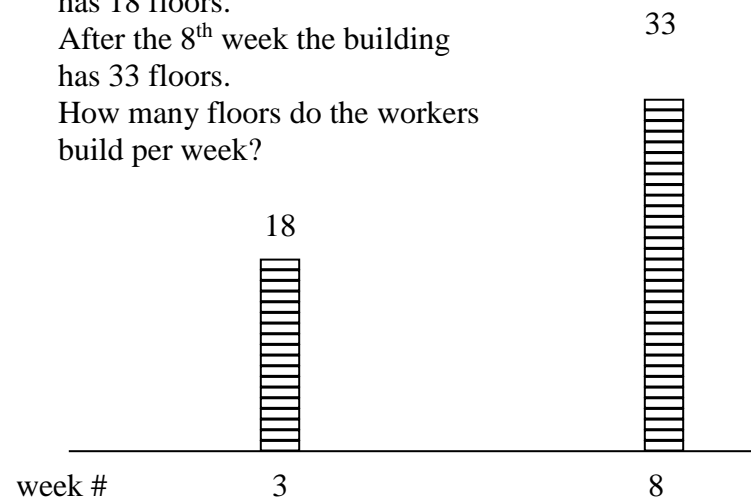
2. At the end of the 7th week there were
38 floors in a building.
The workers can build 4 floors
per week.
How tall was the zero building?



3. The initial building has 14 floors.
After the 8th week the building has
30 floors.
How many floors do the workers
build per week?



4. After the 3rd week, the building
has 18 floors.
After the 8th week the building
has 33 floors.
How many floors do the workers
build per week?

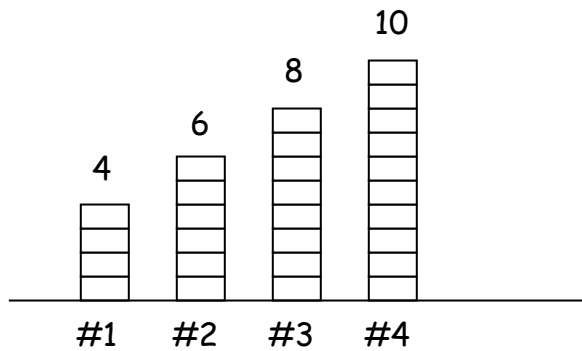
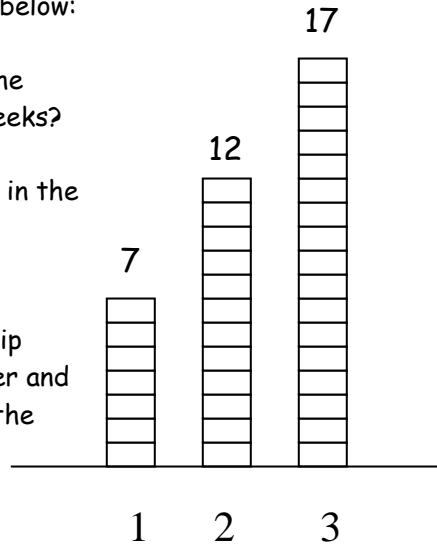


Answer the following questions for each sequence given below:

1. How many floors did the building have after 10 weeks?

2. How many floors were in the initial building?

3. Write a formula to represent the relationship between the week number and the number of floors in the building.

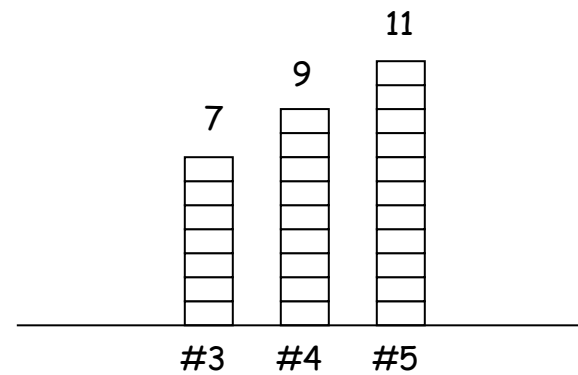
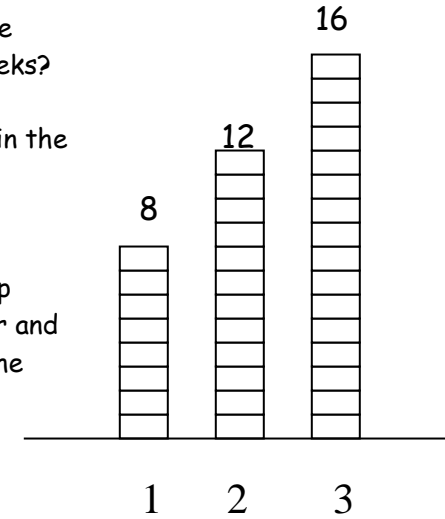


Answer the following questions for each sequence given below:

1. How many floors did the building have after 10 weeks?

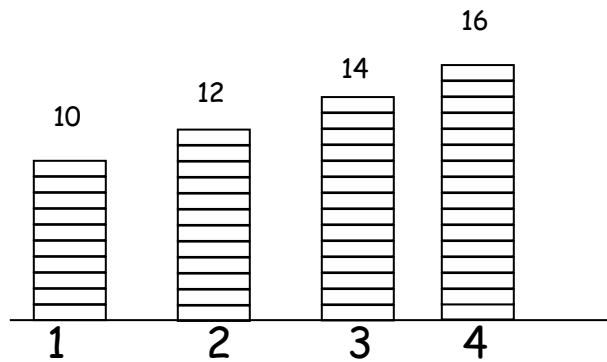
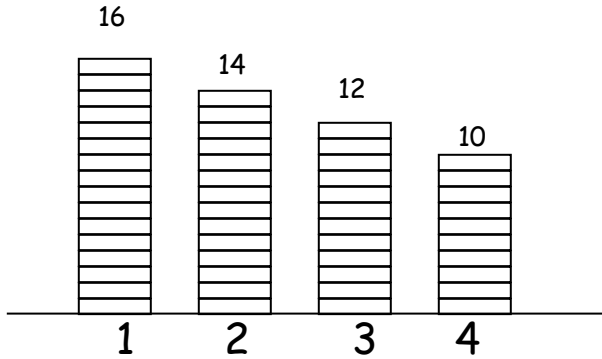
2. How many floors were in the initial building?

3. Write a formula to represent the relationship between the week number and the number of floors in the building.



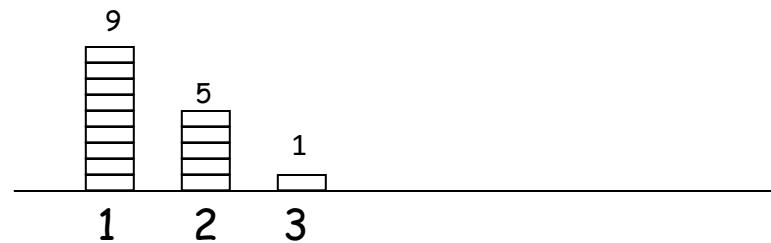
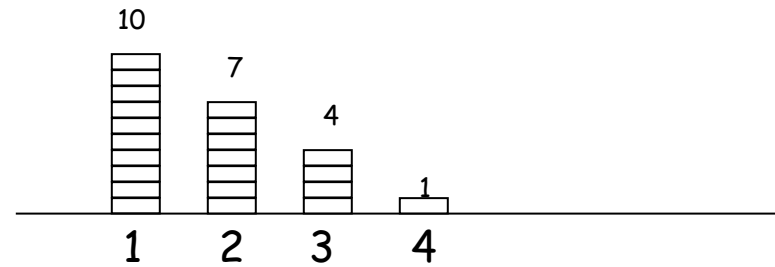
Answer the following questions for each sequence given below:

1. How many floors did the building have after 10 weeks?
2. How many floors were in the initial building?
3. Write a formula to represent the relationship between the week number and the number of floors in the building.



Answer the following questions for each sequence given below:

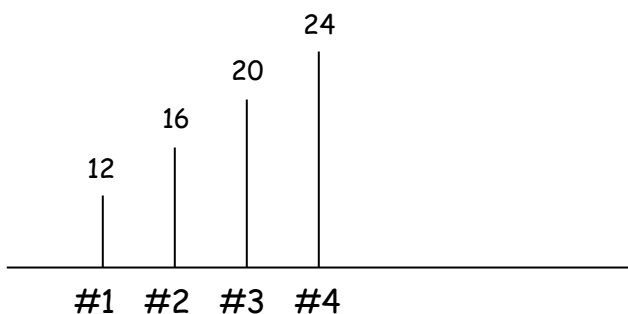
1. How many floors did the building have after 10 weeks?
2. How many floors were in the initial building?
3. Write a formula to represent the relationship between the week number and the number of floors in the building.



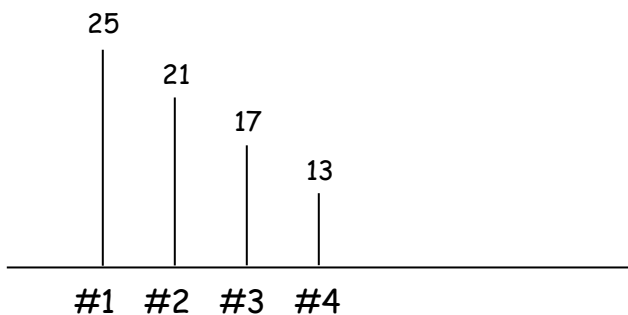
Answer the following questions for each sequence given below:

1. How many floors did the building have after 10 weeks?
2. How many floors were in the initial building?
3. Write a formula to represent the relationship between the week number and the number of floors in the building.

A.

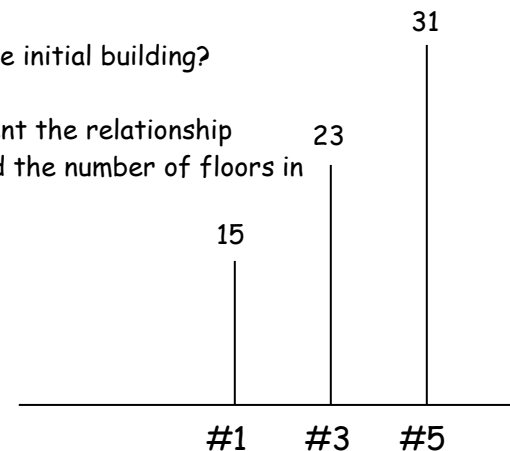


B.



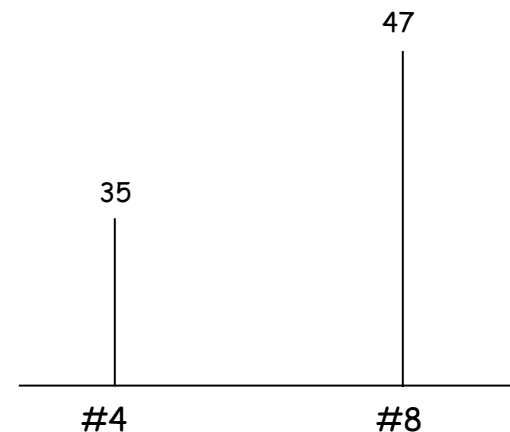
For the sequence below:

1. How many floors did the building have after 4 weeks?
2. How many floors did the building have after 10 weeks?
3. How many floors were in the initial building?
4. Write a formula to represent the relationship between the week number and the number of floors in the building.



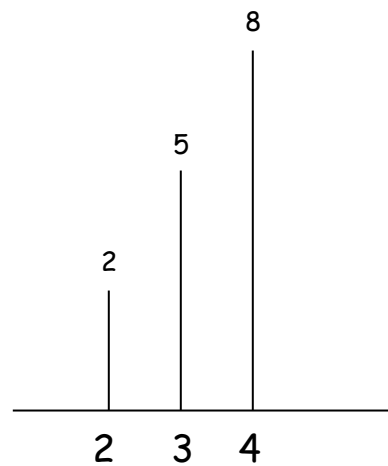
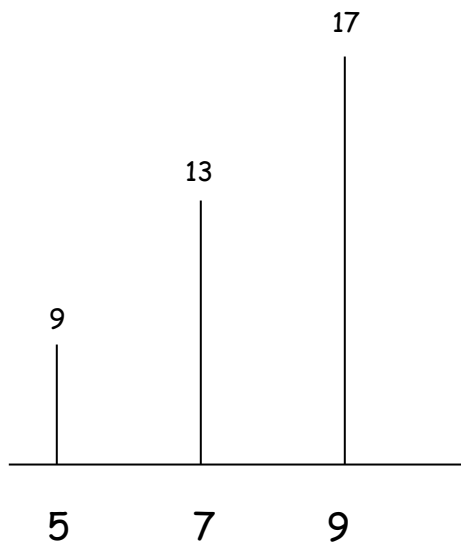
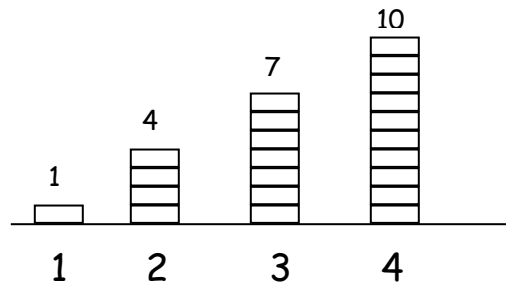
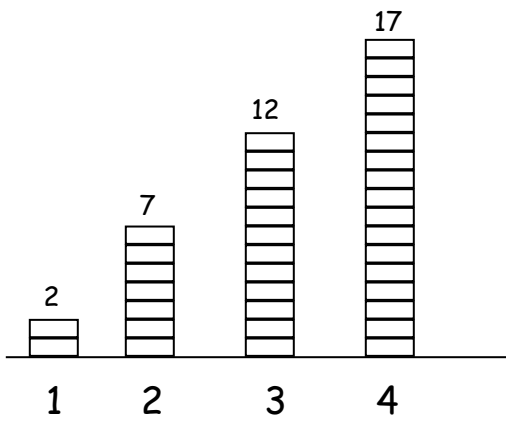
For the building to the right:

5. How many floors did the building have after 6 weeks?
6. How many floors did the building have after 24 weeks?
7. How many floors were in the initial building?
8. Write a formula to express the relationship between the week number and the # of floors in the building.



Answer the following questions for each sequence given below:

1. How many floors did the building have after 10 weeks?
2. How many floors were in the initial building?
3. Write a formula that represents the relationship between the week number and the number of floors in the building.



Writing Equations Note Sheet!

You all have been writing formulas for different building plans and drawing building plans for different formulas. In mathematics the formulas you all have written are called "equations" because there is an equal sign and on either side of the equal sign there is an equivalent expression.

For example: $w \cdot 4 + 3 = T$ is an equation
 $w \cdot 4 + 3$ is an expression

Write a building plan equation with the given rates and initial buildings. Be prepared to prove your answer!

A) Initial Building: 7 A)
Rate: 3

B) Initial Building: -4 B)
Rate: 5

C) Initial Building: 4 C)
Rate: -5

D) Initial Building: -2 D)
Rate: -6

Assessment:

Using the following formula's answer the questions below:

A. $T = 4 - 5W$

B. $T = 5W - 4$

- 1) What is the rate in each formula?
- 2) What is the Initial Building in each formula?
- 3) How tall will the building be after three weeks in each formula?

Assessment:

Using the following formula's answer the questions below:

B. $T = 4 - 5W$

B. $T = 5W - 4$

- 4) What is the rate in each formula?
- 5) What is the Initial Building in each formula?
- 6) How tall will the building be after three weeks in each formula?

Assessment:

Using the following formula's answer the questions below:

C. $T = 4 - 5W$

B. $T = 5W - 4$

- 7) What is the rate in each formula?
- 8) What is the Initial Building in each formula?
- 9) How tall will the building be after three weeks in each formula?

Assessment:

Using the following formula's answer the questions below:

D. $T = 4 - 5W$

B. $T = 5W - 4$

- 10) What is the rate in each formula?
- 11) What is the Initial Building in each formula?
- 12) How tall will the building be after three weeks in each formula?

Given the formula for a building plan in which w represents the week number and t represents the height of the building, draw a diagram that illustrates the sequence:

1. $t = 5 + 2w$

2. $t = 3 - 4w$

3. $t = -2 + 3w$

4. $t = 10w + 12$

CHALLENGE: $t = 2w$

Given the formula for a building plan in which w represents the week number and t represents the height of the building, draw a diagram that illustrates the sequence:

1. $3w - 4 = t$

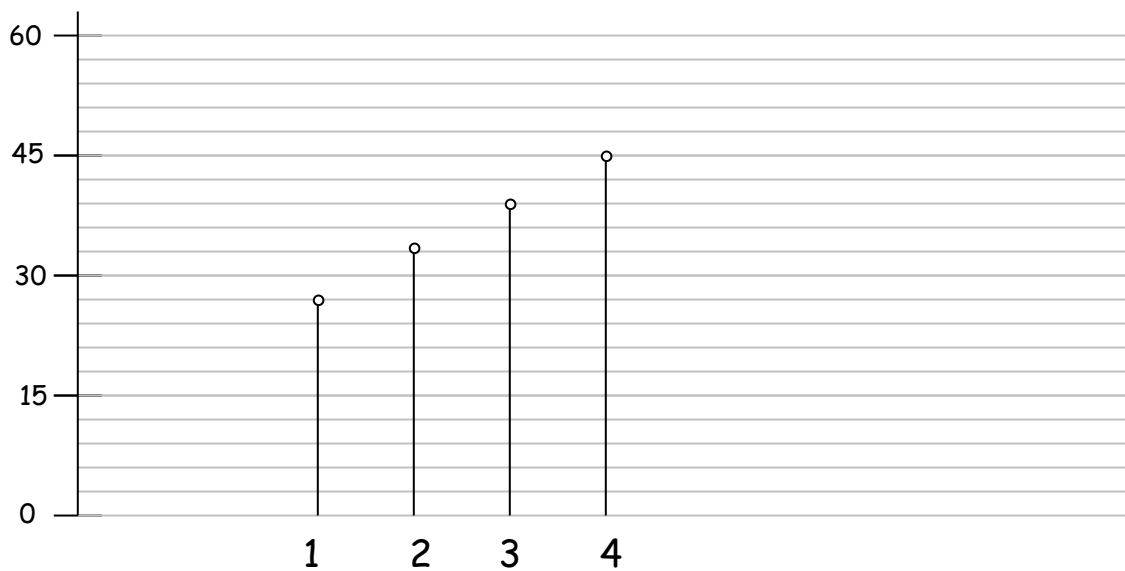
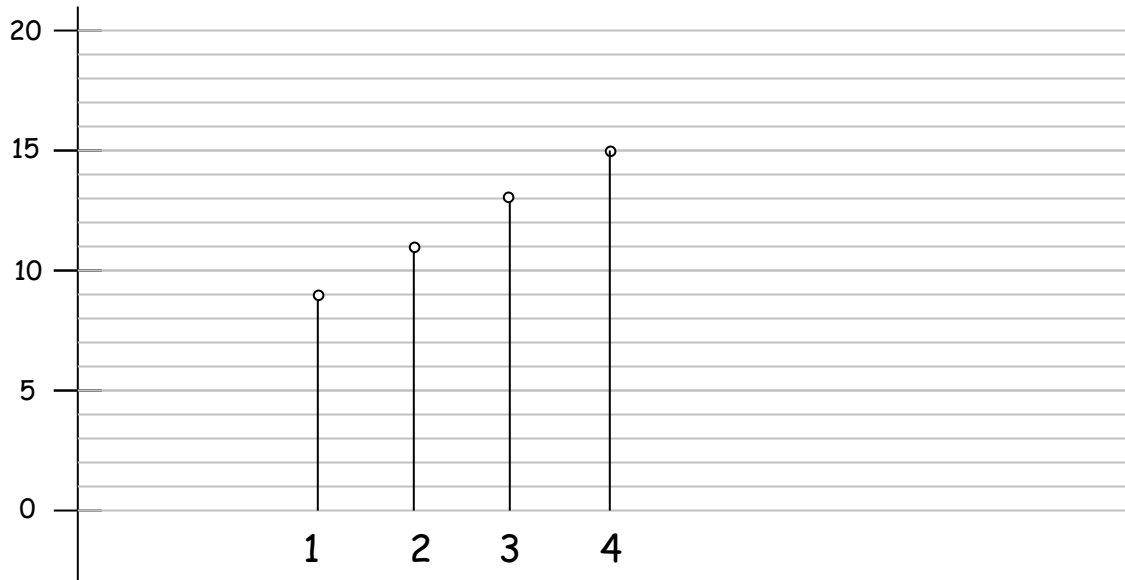
2. $t = 5 - w$

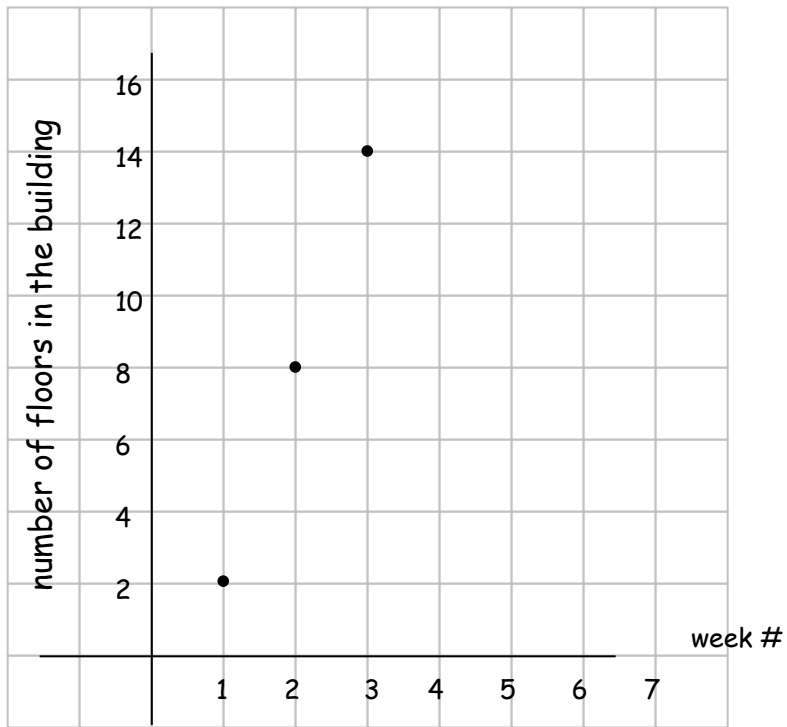
3. $t = -3w + 8$

4. $t = 3w + 8$

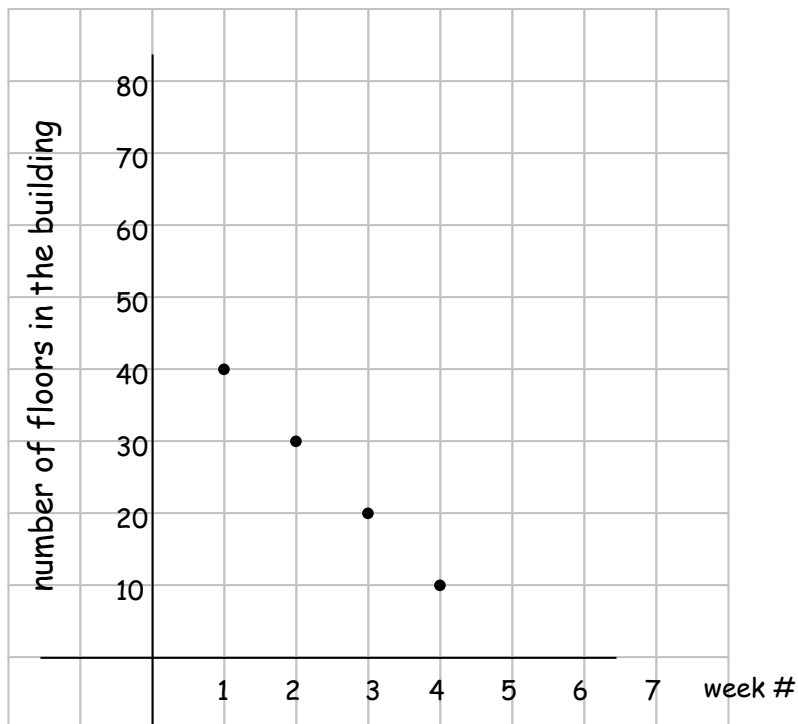
Answer the following questions for each sequence given below:

1. How tall is each building?
2. How tall is the building in the 20th week?
3. Indicate the initial building height on the graph.
4. Write a formula for the relationship between the week number and the number of floors in the building.



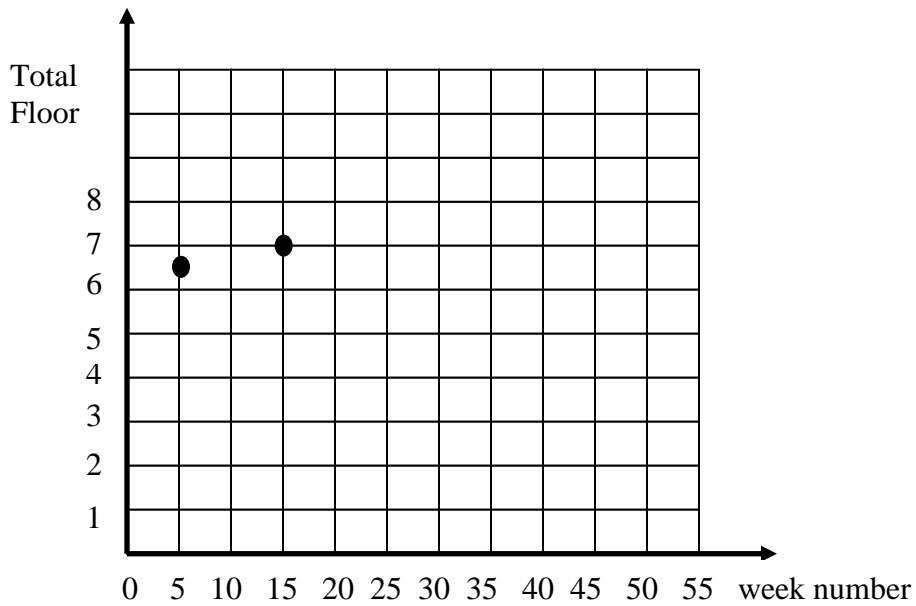


1. How many floors are in each tower?
2. How many floors are in the initial tower?
3. How many floors are in the 21st tower?
4. Write a formula relating the week to the total number of floors in the building.



1. How many floors are in each tower?
2. How many floors are in the 5th tower? Label this point on the graph.
3. How many floors are in the 0th tower? Label this point on the graph.
4. How many floors are in the 21st tower?
5. Write a formula relating the week to the total number of floors in the building.

The Realistic Building Plan Project

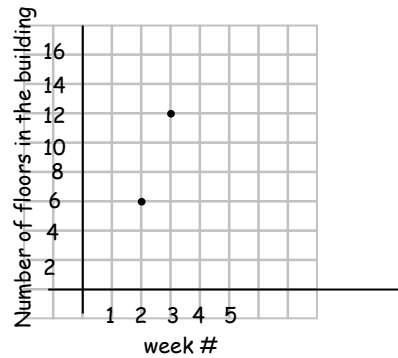


You are the project manager on this building site. The bosses want you to predict how many floors of the building will be built after 55 weeks.

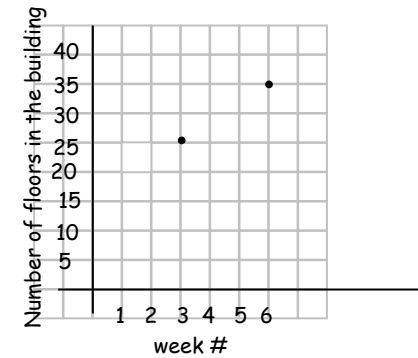
What is the rate?

Your foreman wants to have a formula for finding out how many floors will be built after any number of weeks. Can you come up with this formula?

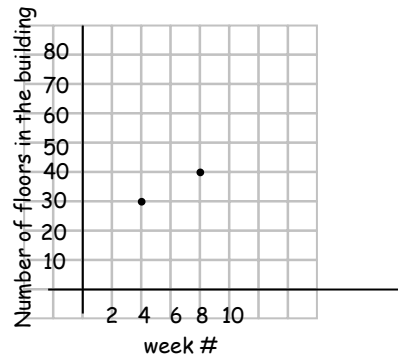
1. How tall is the building after the 1st week? Plot this point on the graph.
2. How tall is the building in the 20th week?
3. How tall is the initial building? Plot this point on the graph.
4. Write a formula for the sequence.



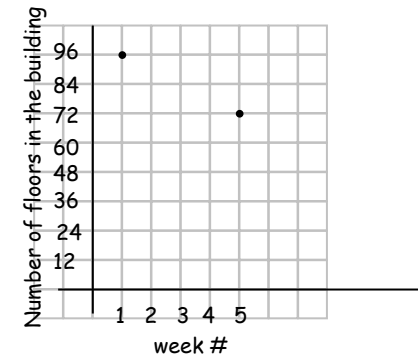
1. How tall is the building after the 1st week? Plot this point on the graph.
2. How tall is the building in the 20th week?
3. How tall is the initial building? Plot this point on the graph.
4. Write a formula for the sequence.



1. How tall is the building after the 6th week? Plot this point on the graph.
2. How tall are the buildings in the 0th and 1st weeks? Plot these points on the graph.
3. Write a formula for the sequence.



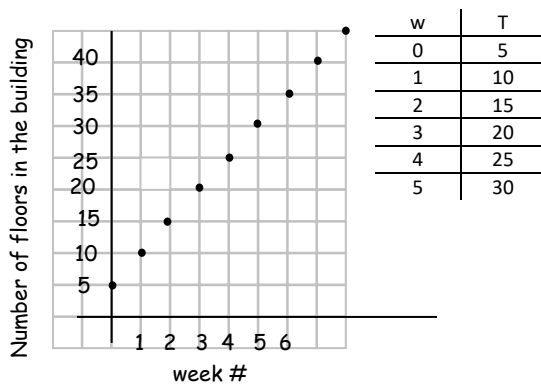
1. How tall are the buildings in the 2nd and 3rd weeks? Plot these points on the graph.
2. How tall is the building in the 10th week?
3. How tall is the initial building? Plot this point on the graph.
4. Write a formula for the sequence.



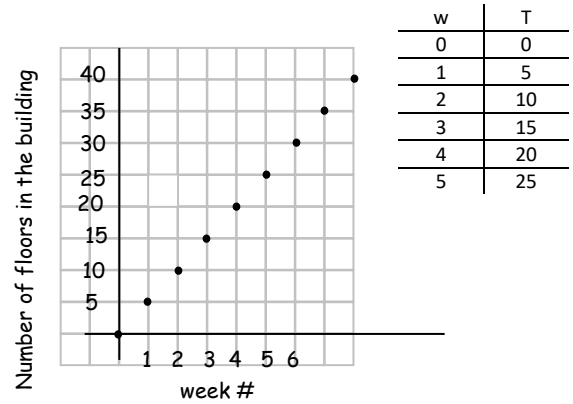
Who Rates?

Which of the following companies is building at the fastest rate? Find each rate and show evidence on your paper.

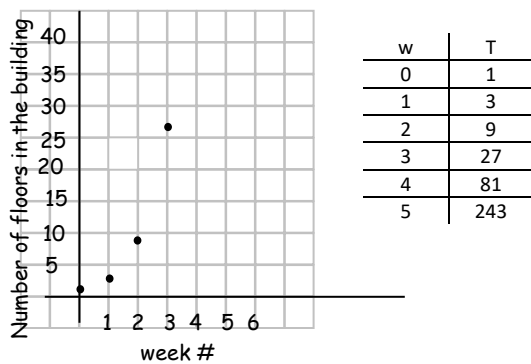
Anna's Assemblers



Bobby's Buildings Co.



Cooper's Construction Co.



Devonte's Demolition Co.

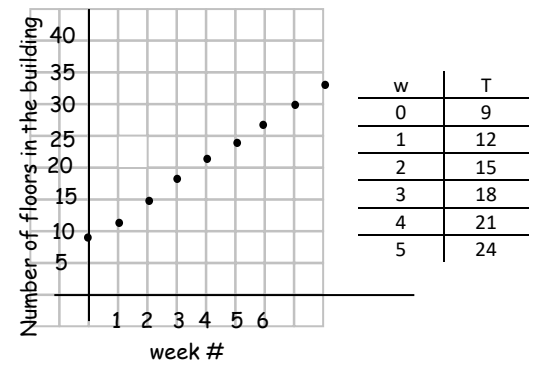


Figure out a formula for each sequence below:

1.

Week Number	Number of Floors
2	11
3	14
4	17
5	20
6	23

2.

Week Number	Number of Floors
2	1
3	6
4	11
5	16
6	21

3.

Week Number	Number of Floors
5	20
6	22
7	24
8	26
9	28

4.

Week Number	Number of Floors
1	26
2	23
3	20
4	17
5	14

5.

Week Number	Number of Floors
5	65
10	115
15	165

6.

Week Number	Number of Floors
20	71
21	75
22	79
23	83

Figure out a formula for each sequence below:

1.

<i>w</i>	<i>t</i>
6	13
9	22
12	31

2.

<i>w</i>	<i>t</i>
6	22
12	24
18	26
24	28

3.

<i>w</i>	<i>t</i>
8	8
16	6
24	4
32	2

4.

<i>w</i>	<i>t</i>
50	405
51	413
52	421

5.

<i>w</i>	<i>t</i>
9	102
13	150

6.

<i>w</i>	<i>t</i>
3	24
7	-24

For each task below, decide if the building is being built at constant rate, a non-constant rate, or cannot decide for certain.

1.

Week Number	Height
10	45
11	47
16	57

2.

Week Number	Height
5	35
9	101
10	113

3.

Week Number	Height
12	25
10	30

4.

Week Number	Height
12	50
14	60
20	0

5.

Week Number	Height
5	8
12	29
9	20

6.

Week Number	Height
1	3
2	9
3	27

7.

Week Number	Height
1	4
5	8
6	12

8.

Week Number	Height
10	2
14	-2
24	-12

9.

Week Number	Height
2	3
3	8
4	15