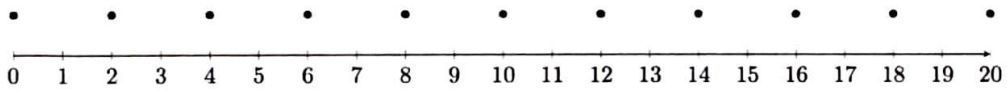
Comparing magnitude of velocity and acceleration

Name: Anne Sirs

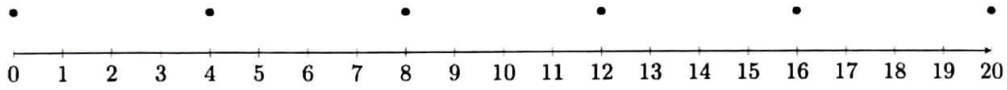
With the dot patterns below, determine what kind of motion is present, and compare the magnitude of the two motions. Assume each dot is one second passing. Fill out the tables.

A



Position (m)

B



Position (m)

A

Time (s)	Position (m)
0	0
1	2
2	4
3	6
4	8
5	10

x2

B

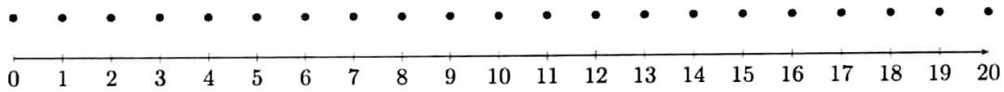
Time (s)	Position (m)
0	0
1	4
2	8
3	12
4	16
5	20

What kind of motion are A **AND** B representing (Check one)?

- ☐ staying stopped.
- ☒ constant speed.
- ☐ gaining speed.
- ☐ losing speed.

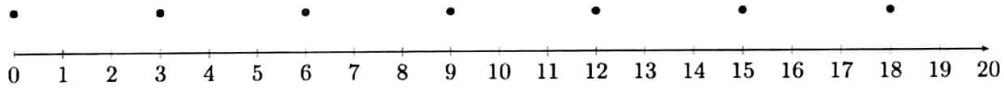
Which one is higher and by how much? B is x2 higher!

A



Position (m)

B



Position (m)

A

Time (s)	Position (m)
0	0
1	1
2	2
3	3
4	4
5	5
6	6

x3

B

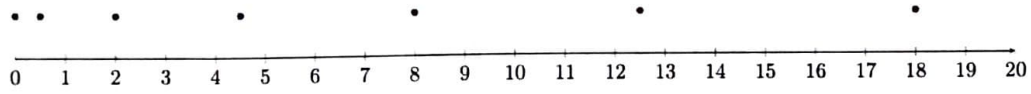
Time (s)	Position (m)
0	0
1	3
2	6
3	9
4	12
5	15
6	18

What kind of motion are A & B representing (Check one)?

- ☐ staying stopped.
- ☒ constant speed.
- ☐ gaining speed.
- ☐ losing speed.

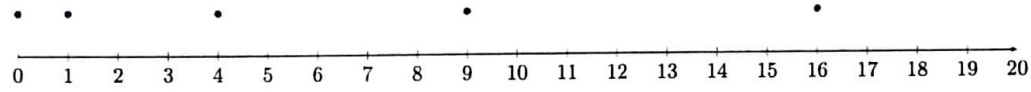
Which one is higher and by how much? B is x3 higher!

A



Position (m)

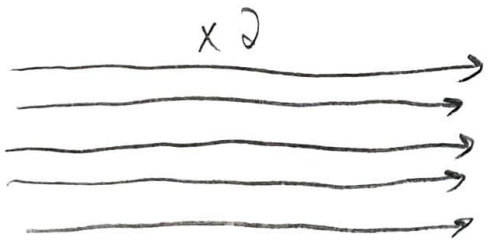
B



Position (m)

A

Time (s)	Position (m)
0	0
1	0.5
2	2
3	4.5
4	8



B

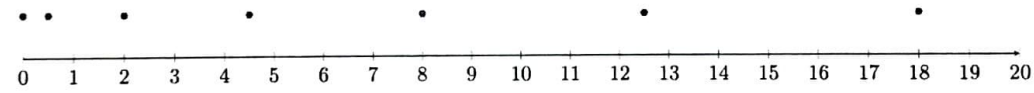
Time (s)	Position (m)
0	0
1	1
2	4
3	9
4	16

What kind of motion are A & B representing (Check one)?

- ☐ staying stopped.
- ☐ constant speed.
- ☑ gaining speed.
- ☐ losing speed.

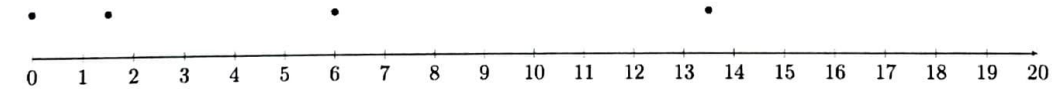
Which one is higher and by how much? B is 2x higher!

A



Position (m)

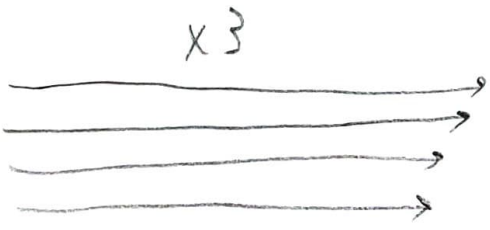
B



Position (m)

A

Time (s)	Position (m)
0	0
1	0.5
2	2
3	4.5



B

Time (s)	Position (m)
0	0
1	1.5
2	6
3	13.5

What kind of motion are A & B representing (Check one)?

- ☐ staying stopped.
- ☐ constant speed.
- ☑ gaining speed.
- ☐ losing speed.

Which one is higher and by how much? B is 3x higher!