Chapter 1
Sections 1.1 – 1.4

Did you do the reading?

A. Yes
B. Part of it
C. Didn’t have a chance

Did you find the text readable?

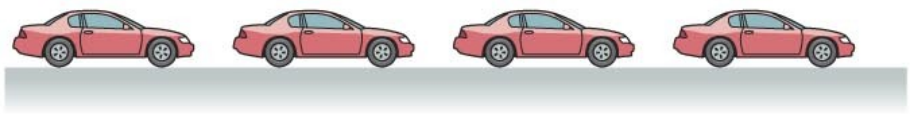
Only answer if you read!

A. Read like a novel
B. Readable but it’s certainly no novel
C. Understandable but I had to reread some sections
D. Very confusing

Which car is going faster?

Assume equal intervals of time between frames of both videos

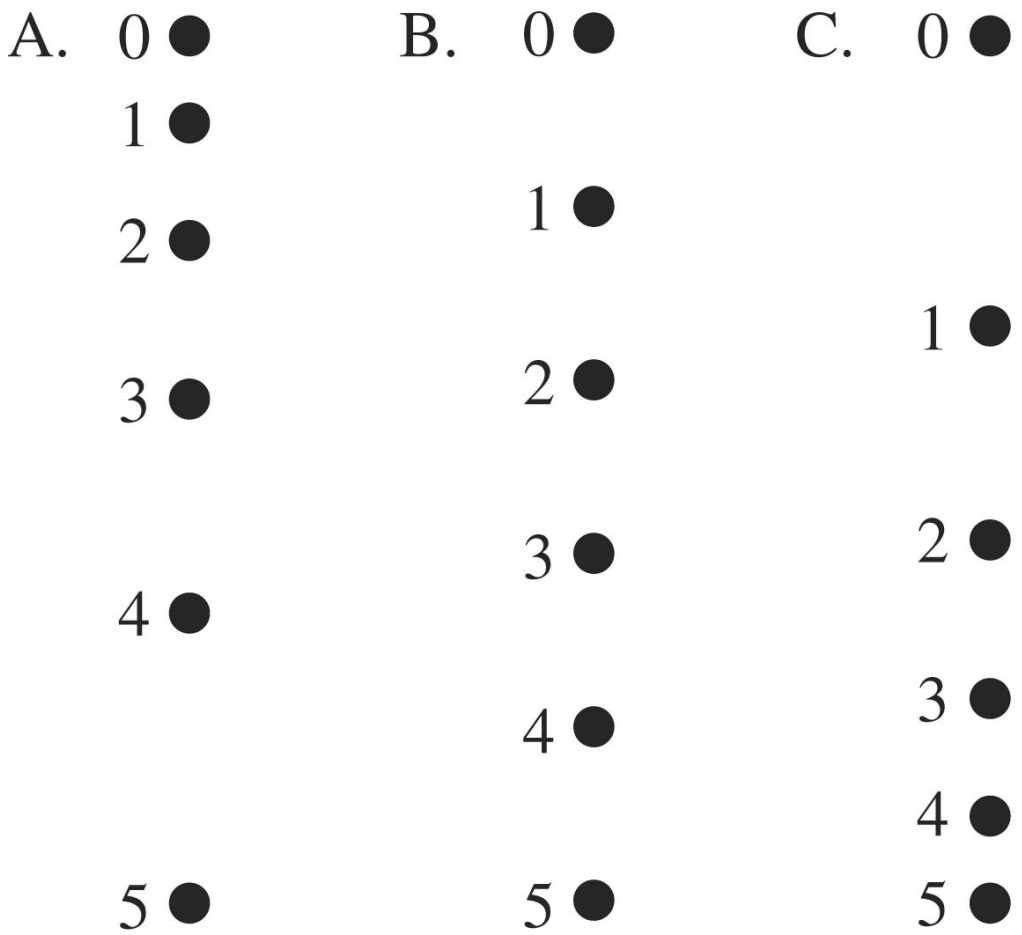
A. Car A
B. Car B



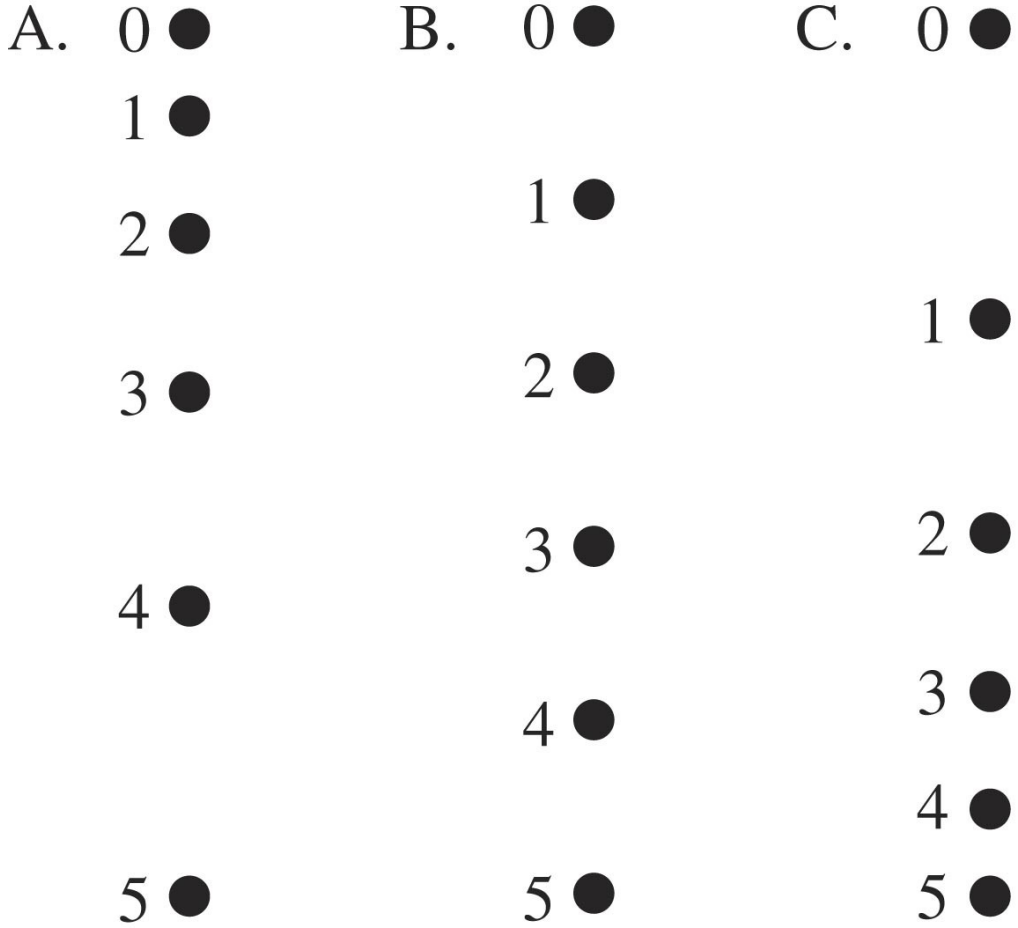
Car A

Car B

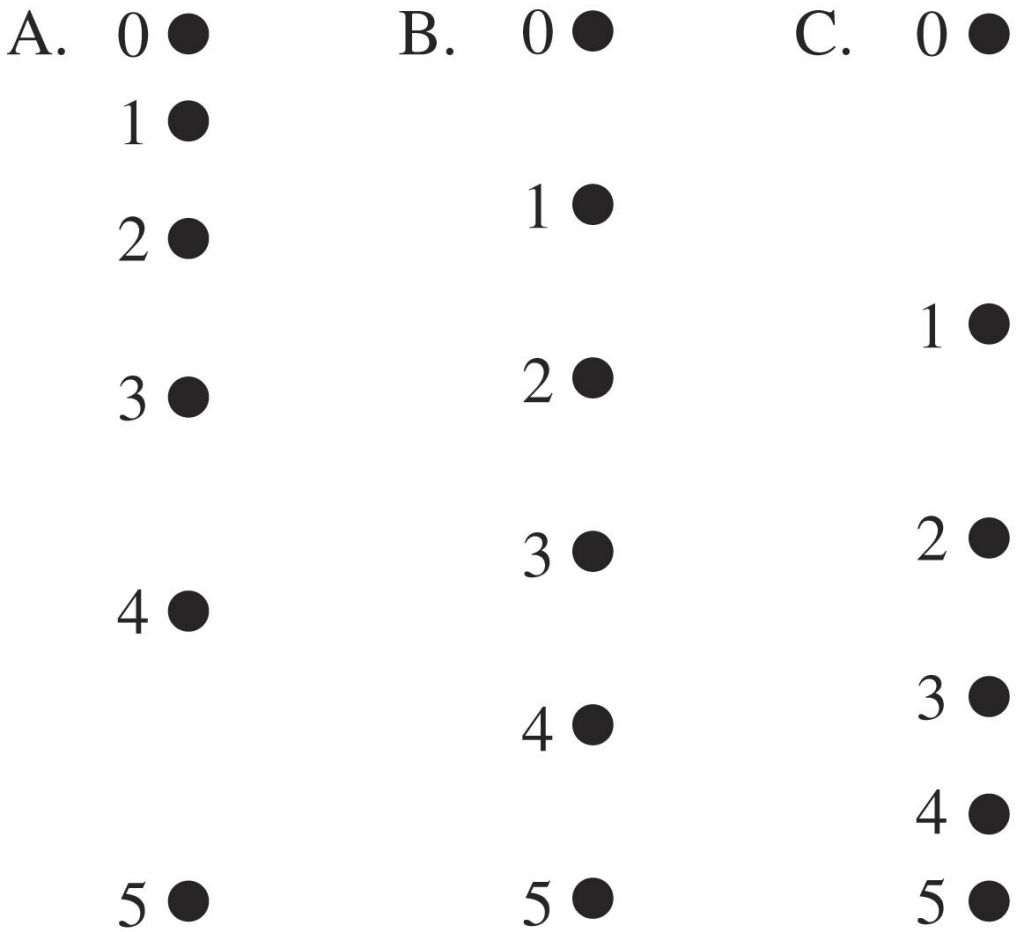
Which could be a dust particle settling to the floor at constant speed?



Which is a ball dropped from the roof of a building?



Which is a descending rocket slowing to make a soft landing on Mars?



Sarah starts at a positive position along the *x*-axis. She then undergoes a negative displacement. Her final position

A. is positive.
B. is negative.
C. could be either positive or negative.

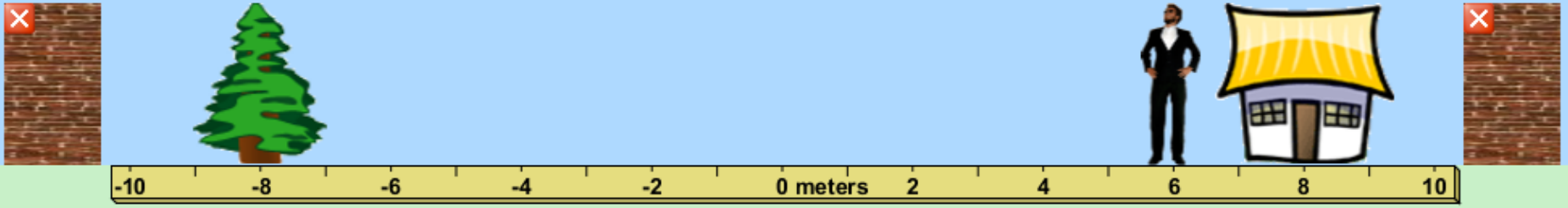
The Moving Man (2.04)

File Special Features Help

Introduction Charts

PhET

59.5 seconds



Position 6.00 m

Velocity 0.00 m/s

Velocity Vector

Acceleration 0.00 m/s^2

Acceleration Vector

Rank in order, from the most to the fewest, the number of significant figures in the following numbers

A. 0.43 B. 0.0052 C. 0.430 D. 4.321×10^{-10}

A. B>C = A>D
B. D>C>B=A
C. D=B>C>A
D. B>D=C>A

TACTICS BOX 1.1 Using significant figures

❶ When you multiply or divide several numbers, or when you take roots, the number of significant figures in the answer should match the number of significant figures of the *least* precisely known number used in the calculation:

Three significant figures

$$3.73 \times 5.7 = 21$$

Two significant figures

Answer should have the *lower* of the two, or two significant figures.

❷ When you add or subtract several numbers, the number of decimal places in the answer should match the *smallest* number of decimal places of any number used in the calculation:

$$\begin{array}{r} 18.54 \\ +\,106.6 \\ \hline 125.1 \end{array}$$

18.54 — Two decimal places

+106.6 — One decimal place

Answer should have the *lower* of the two, or one decimal place.

❸ **Exact numbers** have no uncertainty and, when used in calculations, do not change the number of significant figures of measured numbers. Examples of exact numbers are π and the number 2 in the relation $d = 2r$ between a circle's diameter and radius.

There is one notable exception to these rules:

- It is acceptable to keep one or two extra digits during *intermediate* steps of a calculation. The goal here is to minimize round-off errors in the calculation. But the *final* answer must be reported with the proper number of significant figures.

Sticky Note Movie

Draw an object – particle model is fine.

1. Moving at constant velocity
2. Speeding up
3. Slowing down

Write your name on the front, label each motion and turn it in when complete.