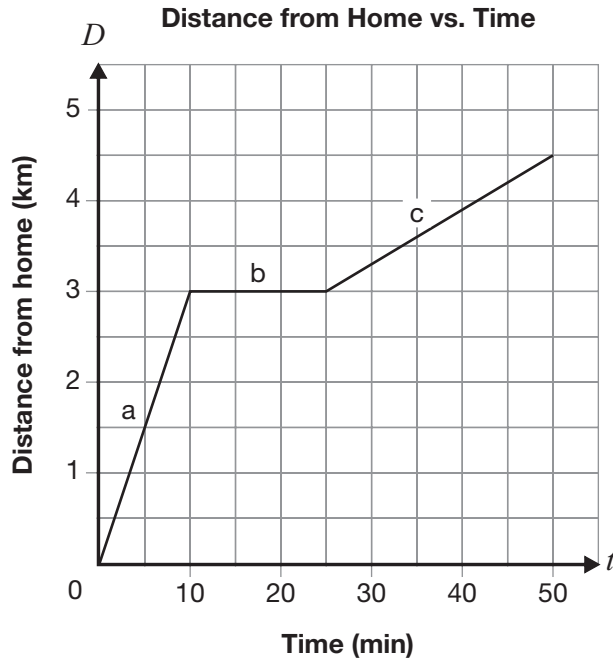


**14 Kenny's Big Adventure**

The following graph represents the relationship between Kenny's distance from home on a bike ride and time.

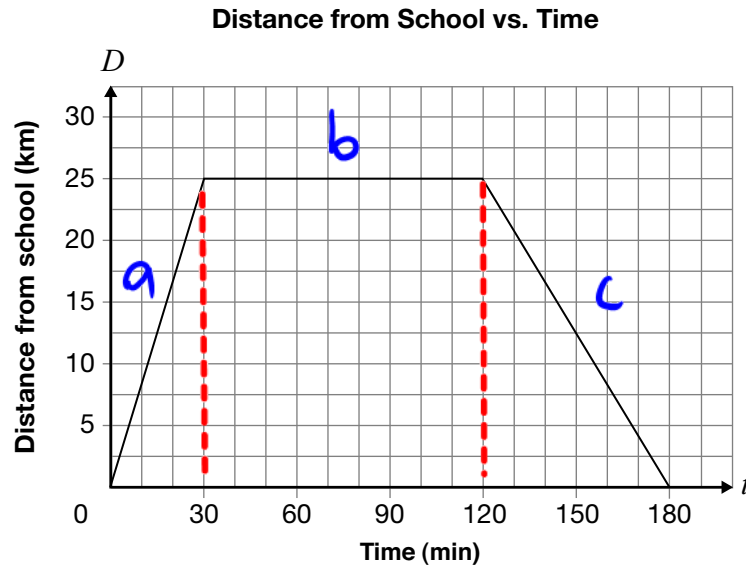


Describe the 3 segments of Kenny's ride. Include information about distance travelled, time, direction and speed, in km/min, for each segment.

Segment	Distance travelled	Time	Direction	Speed (km/min)
a	3 km	10 min	Away from home	$\frac{3 \text{ km}}{10 \text{ min}} = 0.3 \frac{\text{km}}{\text{min}}$
b	0 km	15 min	stopped	$\frac{0 \text{ km}}{15 \text{ min}} = 0 \frac{\text{km}}{\text{min}}$
c	1.5 km	25 min	Away from home	$\frac{1.5 \text{ km}}{25 \text{ min}} = 0.06 \frac{\text{km}}{\text{min}}$

## 9 Dogs Versus Cats

The Bryant Bulldogs basketball team takes the bus to play the Jordan High Thundercats.



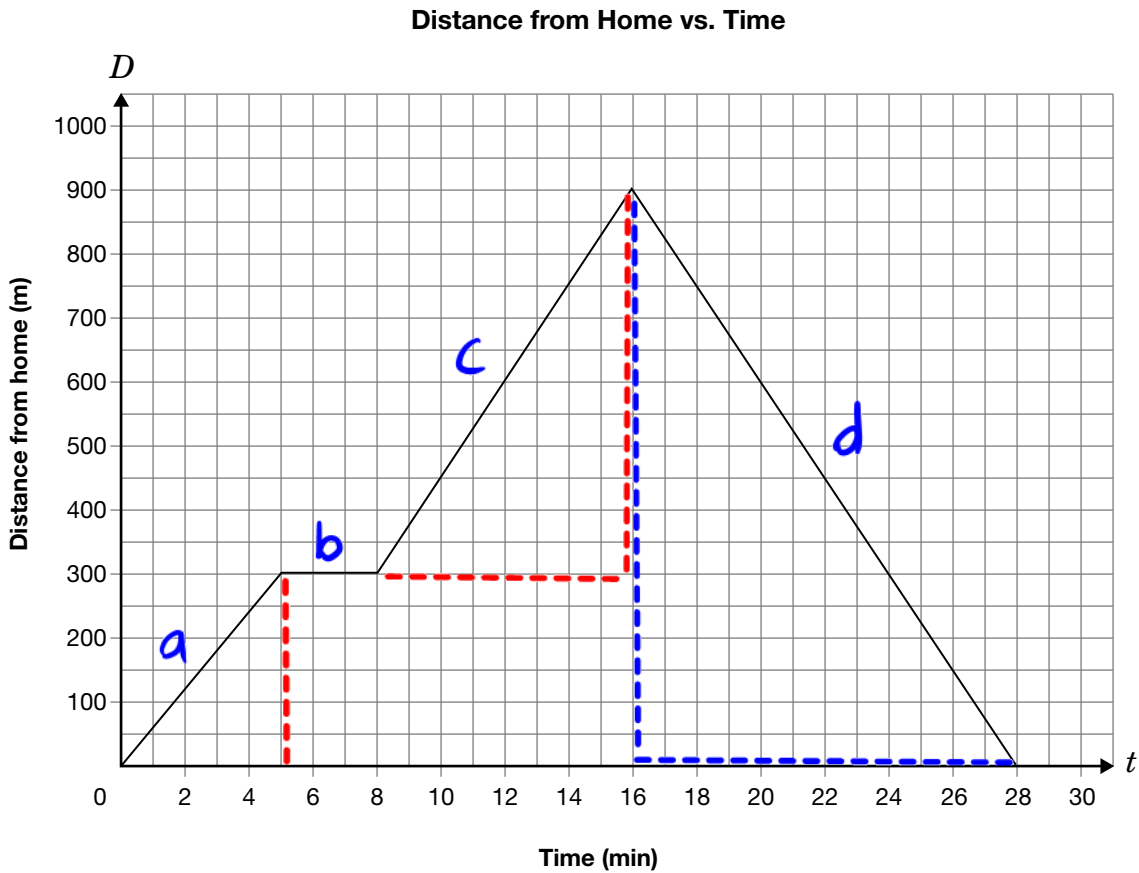
Describe the three parts of the Bulldogs' bus trip, using the information on the graph.

Include information about distance, time, direction and speed in kilometres per minute for each section of the graph.

Section	distance	time	direction	Speed
a	25km	30min	away from school	$\frac{25\text{km}}{30\text{min}} = 0.83 \frac{\text{km}}{\text{min}}$
b	0 km	120 - 30 = 90min	stays still	0 km/min
c	25km	180 - 120 = 60min	back to school	$\frac{25\text{km}}{60\text{min}} = 0.42 \frac{\text{km}}{\text{min}}$

**10 Selena's Stroll**

The graph below represents 4 segments of Selena's morning walk.



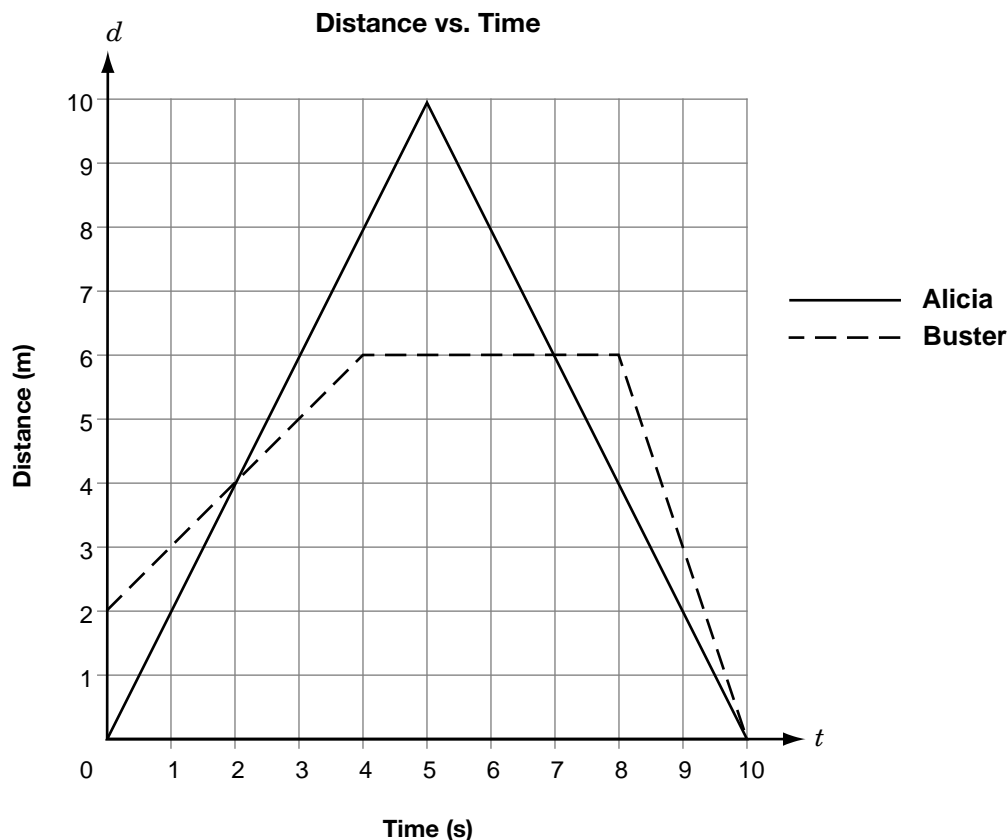
Describe the four segments of Selena's walk.

Section	direction	distance	time	Speed
a	away from home	300m	5 sec	$\frac{300}{5} = 60 \text{ m/s}$
b	stays still	0m	$8-5 = 3 \text{ sec}$	$\frac{0}{3} = 0 \text{ m/s}$
c	away from home	$900-300 = 600 \text{ m}$	$16-8 = 8 \text{ sec}$	$\frac{600}{8} = 75 \text{ m/s}$
d	towards home	900m	$28-16 = 12 \text{ sec}$	$\frac{900}{12} = 75 \text{ m/s}$

**Hint**  
 Include information about  
 • direction,  
 • distance,  
 • time and  
 • speed, in m/min.

3. Alicia and Buster walked in front of a motion detector. The graph below shows the relationship between the distance from the detector,  $d$ , in metres, and time,  $t$ , in seconds.

When was Buster moving faster than Alicia? Give reasons for your answer.



After 8 seconds → the line is steeper → faster rate of change

Alicia

0-5 seconds:  $10\text{m}/5\text{sec} = 2\text{m/sec}$

5-10 seconds:  $10\text{m}/5\text{sec} = 2\text{m/sec}$

Buster

0-4 seconds:  $4\text{m}/4\text{sec} = 1\text{m/sec}$

4-8 seconds: Stopped

8-10 seconds:  $6\text{m}/2\text{sec} = 3\text{m/sec}$

← moving faster than Alicia between 8-10 seconds