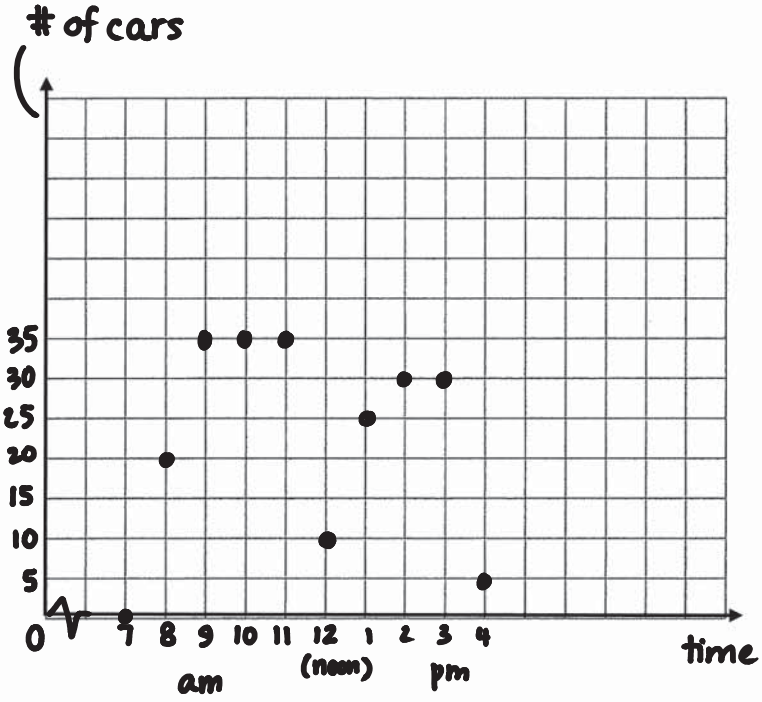
5.6 Sketching and Interpreting Graphs

Construct Understanding

Example 1: The following table shows the number of cars in a school parking lot during a day.

Time	Number of Cars
7 am	0
8am	20
9am	35
10am	35
11am	35
12 noon	10
1pm	25
2pm	30
3pm	30
4pm	5



Independent Variable (x-axis) time

Dependent Variable (y-axis) # of cars

Does it make sense to join the points? No, there is no data between them

Domain $\{7, 8, 9, 10, 11, 12, 1, 2, 3, 4\}$ (7 am, 8 am, 9 am, 10 am, 11 am, 12 pm, 1 pm, 2 pm, 3 pm, 4 pm)

or $\{1, 2, 3, 4, 7, 8, 9, 10, 11, 12\}$ (1 pm, 2 pm, 3 pm, 4 pm, 7 am, 8 am, 9 am, 10 am, 11 am, 12 pm)

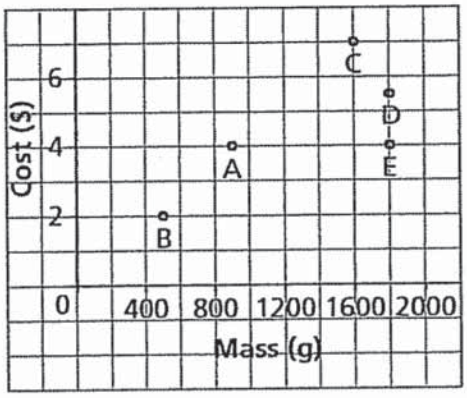
Range $\{0, 5, 10, 20, 30, 35\}$

Discrete Data - Only have data for specific points (no "in between" data) ex: can't have half of a car

↳ opposite is continuous data.

Example 2: Each point on this graph represents a bag of popping corn. Explain the answer to each question.

Costs and Masses of Various Bags of Popcorn



a) Which bag is the most expensive? What does it cost?

bag C , $7

b) Which bag has the least mass? What is this mass?

bag B , 500g

c) Which bags have the same mass? What is this mass?

bags D and E , 1800g

d) Which bags cost the same? What is this cost?

bags A and E , $4

e) Which of the bags C or D has the better value for money?

C: $\frac{\$7}{1600\,g} = \$0.004375/g$ / D: $\frac{\$5.50}{1800\,g} = \$0.0031/g$

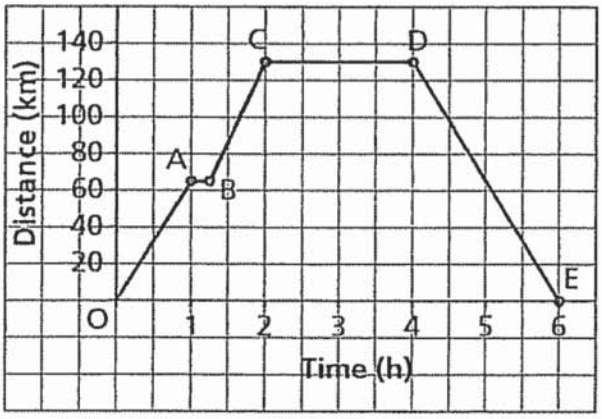
better value
more (g) for less ($)

f) Does this graph represent a function?

No, x-values repeat

Example 3: The graph represents a day trip from Winnipeg to Winkler Manitoba. The distance between the cities is 130 km.

Describe the journey for each segment of the graph.



Segment	Graph	Journey
O – A	as time increases, so does distance	travels 65 km in 1 hr or 65 km/hr
A – B	as time increases, distance remains same	stops for 15 minutes
B – C	as time increases, so does distance	travels another 65 km to get to Winkler in 45 minutes
C – D	as time increases, distance remains same	stops for 2 hours
D – E	as time increases, distance decreases	turned around and drove home; drove 130 km in 2 hours

Total driving time = 6 hours

Total distance = 130 km + 130 km = 260 km
(there) (back)

Practice: p.281#3-10 and p.294#11&12

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EX PC 10