



New York State Testing Program

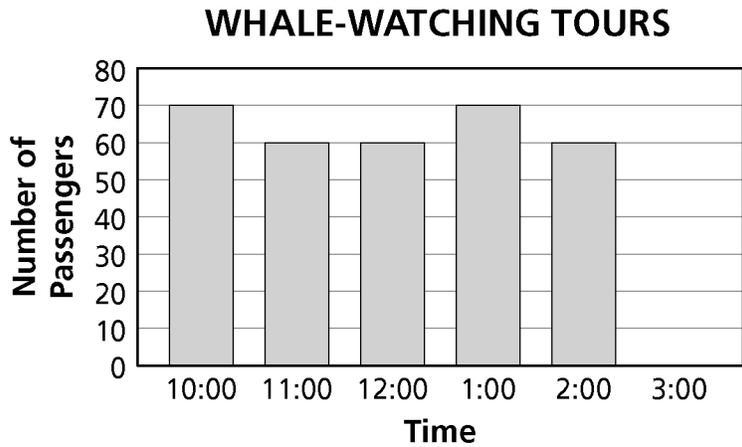
Mathematics Test

Grade **5**

2009 Scoring Guide

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri’s goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Answer _____ passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

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QUESTION 33

STRAND 5: STATISTICS AND PROBABILITY

Complete and Correct Response:

Part A

- $70 + 60 + 60 + 70 + 60 = 320$
 $380 - 320 = 60$

OR other valid process

AND

- 60 (passengers)

Part B

- Sheri is likely to meet her goal because she has had at least 60 passengers on each of the previous tours.

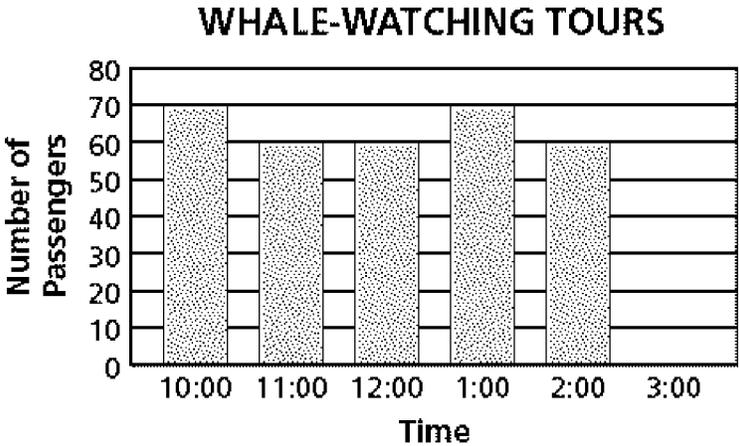
OR other valid explanation

Score Points:

Apply 3-point holistic rubric.

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.
70, 60, 60, 70, 60
140 180
380 - 320 = 60

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

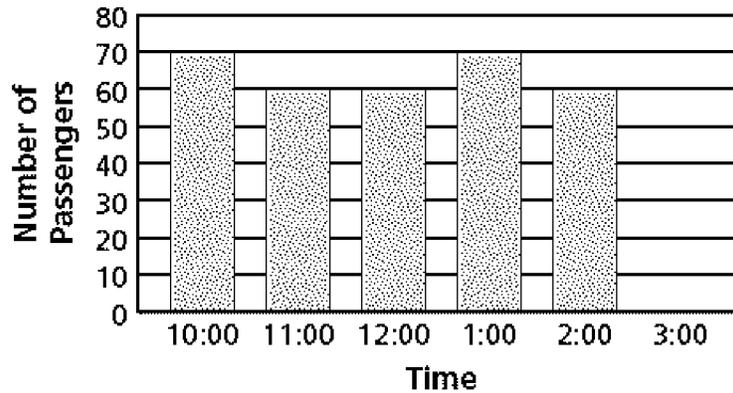
Sheri is likely to meet her goal, because she only needs sixty more passengers. The data in the graph shows that she usually gets 60-70 people every tour, so it is likely she will get 60 and meet her goal.

This response is complete and correct.

Score Point 3

- 33 Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.

WHALE-WATCHING TOURS



$$\begin{array}{r}
 70 \\
 60 \\
 60 \\
 70 \\
 60 \\
 \hline
 320
 \end{array}$$

Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 70 \\
 + 60 \\
 60 \\
 70 \\
 60 \\
 \hline
 320
 \end{array}$$

$$\begin{array}{r}
 380 \\
 - 320 \\
 \hline
 60
 \end{array}$$

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

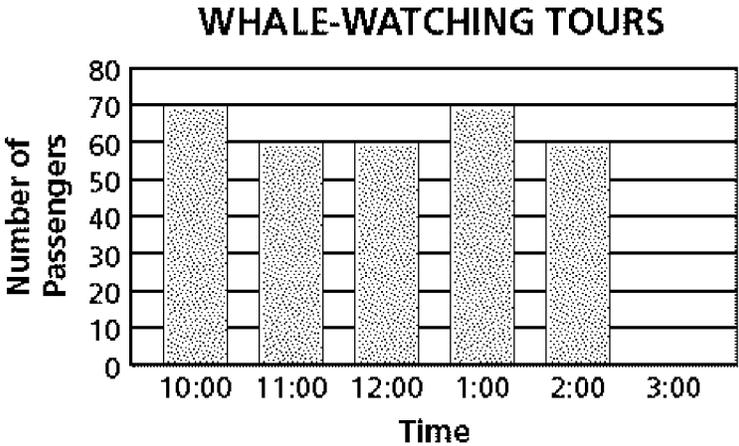
Sheri is likely to reach her goal. Because in the data $\frac{2}{3}$ she got 60 people to go on tour each hour.

This response is complete and correct.

Score Point 3

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Handwritten work showing the calculation of the number of passengers needed for the 3:00 tour to reach a goal of 380.

70 60 60 70 60

130 130

190

Answer 60 passengers

$380 - 320 = 60$

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

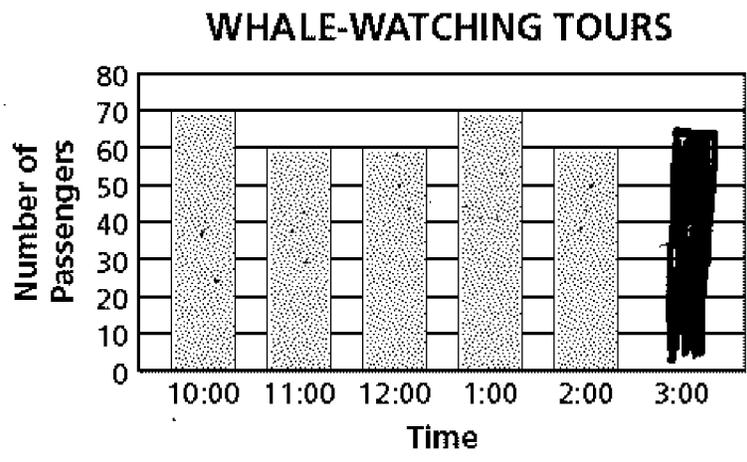
Yes. She usually gets 60 passengers.

This response is complete and correct. The minimum number of passengers established in Part B is sufficient to demonstrate a thorough understanding of the task.

Score Point 3

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 70 \\
 60 \\
 60 \\
 60 \\
 \hline
 250
 \end{array}$$

$$\begin{array}{r}
 250 \\
 + 70 \\
 \hline
 320
 \end{array}$$

$$\begin{array}{r}
 380 \\
 - 320 \\
 \hline
 60
 \end{array}$$

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

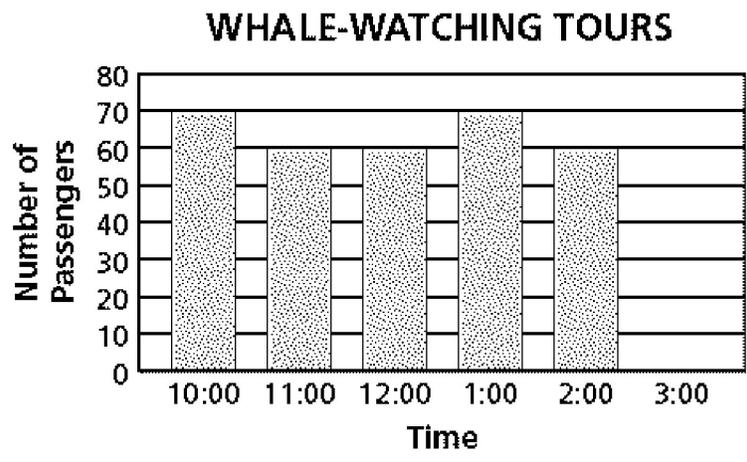
Sheri is likely to meet her goal because for $\frac{4}{6}$ of the whale-watching tours is 60 passengers. That is over half of the tours.

This response is partially correct. The response in Part A is correct; however, Part B is incorrect. Although the data in the table can be represented as a fractional value, the fraction used is incorrect.

Score Point 2

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$70 + 70 + 60 + 60 + 60 = 320$$

60 Passengers needed

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

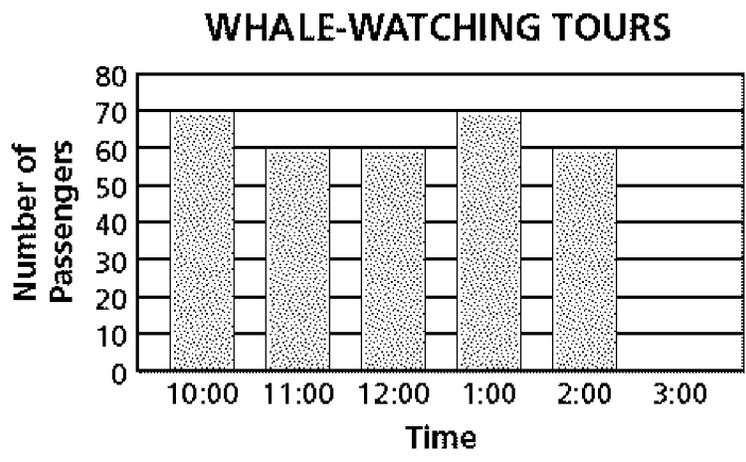
Yes she is likely to meet her goal, because
the number of passengers has always been
between 60 and 70.

This response is partially correct. The response in Part B is correct; however, in Part A the final subtraction procedure must be shown in order to demonstrate a thorough understanding of the task.

Score Point 2

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 70 \\
 + 60 \\
 \hline
 130
 \end{array}
 \quad
 \begin{array}{r}
 130 \\
 + 60 \\
 \hline
 190
 \end{array}
 \quad
 \begin{array}{r}
 190 \\
 + 70 \\
 \hline
 260
 \end{array}
 \quad
 \begin{array}{r}
 260 \\
 + 60 \\
 \hline
 320
 \end{array}
 \quad
 \begin{array}{r}
 380 \\
 - 320 \\
 \hline
 40
 \end{array}$$

Answer 40 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

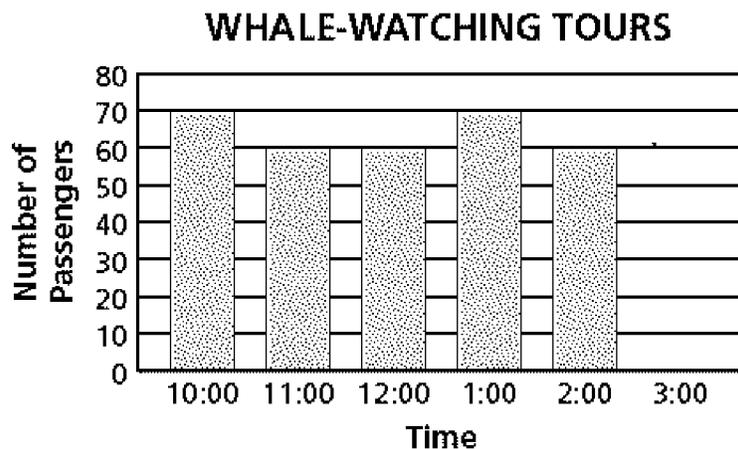
Sheri is likely to meet her goal because she only needs 40 more passengers, by 3:00. Also, because the number of passengers is getting higher by tens, and 40 is a multiple of 10.

This response has multiple flaws. A calculation error in Part A and a conceptual error by stating that there is a “pattern” in the graph in Part B do not demonstrate more than a limited understanding of the mathematical concepts embodied in the task.

Score Point 1

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Answer 60 passengers

$$\begin{array}{r} 70 \\ 60 \\ 60 \\ 70 \\ +60 \\ \hline 320 \end{array}$$

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

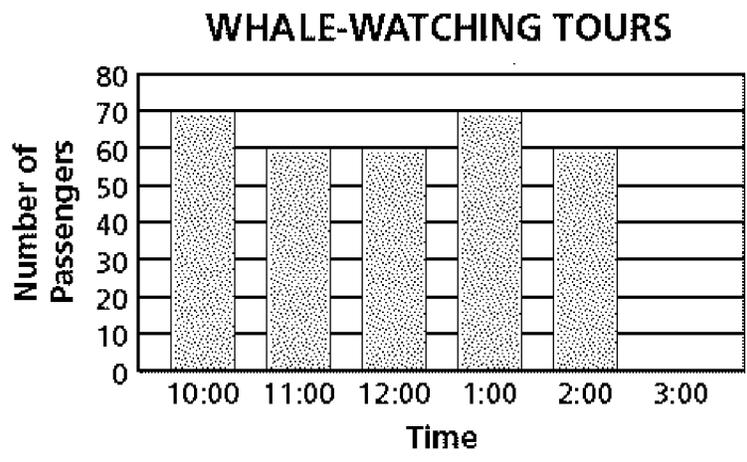
yes because she only feeds 60 more
people to reach her goal

This response demonstrates only a limited understanding of the mathematical concepts embodied in the task. The final answer in Part A is correct; however, Part B is incorrect and the final bridging step in Part A is missing.

Score Point 1

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Pattern: 70, 60, 60, 70, 60, next: 60

$$\begin{array}{r} 10 \\ 70 \\ - 14 \\ \hline 56 \end{array}$$

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

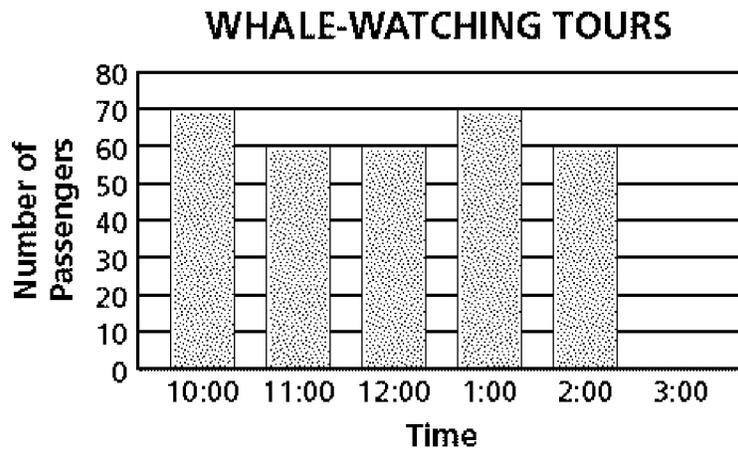
Sheri is likely to meet her goal because she has a pattern in her graph that can help her.

This response is incorrect. The correct answer is arrived at using an obviously incorrect procedure.

Score Point 0

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

70, 80, 90, 100, 110, 120, 130, 140, 150, 160,
 170, 180, 190, 200, 210, 220, 230, 240, 250, 260,
 270, 280, 290, 300, 310, 320, 330, 340, 350,
 360, 370, 380

Answer 32 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

Yes, likely she could meet her goal
only she need 32 passengers.

This response is incorrect. Stating “yes” is not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Score Point 0



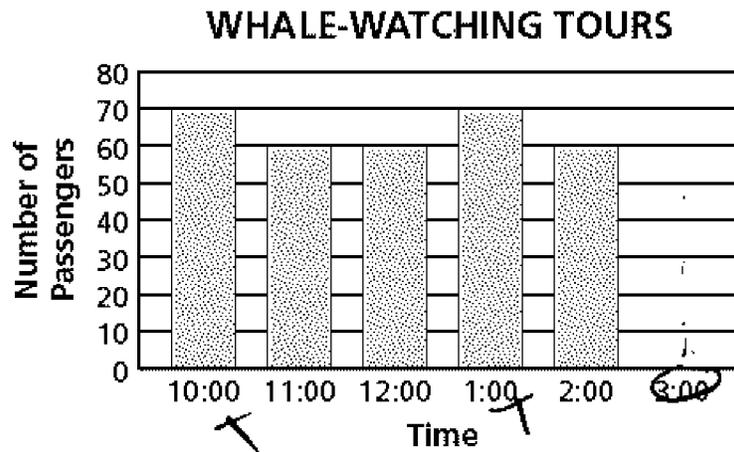
New York State Testing Program

Mathematics Test

Grade **5**

2009 Practice Set

- 33 Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Answer 60 passengers

$$\begin{array}{r} 380 \\ 320 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 70 \\ 70 \\ \hline 140 \end{array}$$

$$\begin{array}{r} 60 \\ 60 \\ \hline 120 \\ 60 \\ \hline 180 \end{array}$$

$$\begin{array}{r} 180 \\ 140 \\ \hline 320 \end{array}$$

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

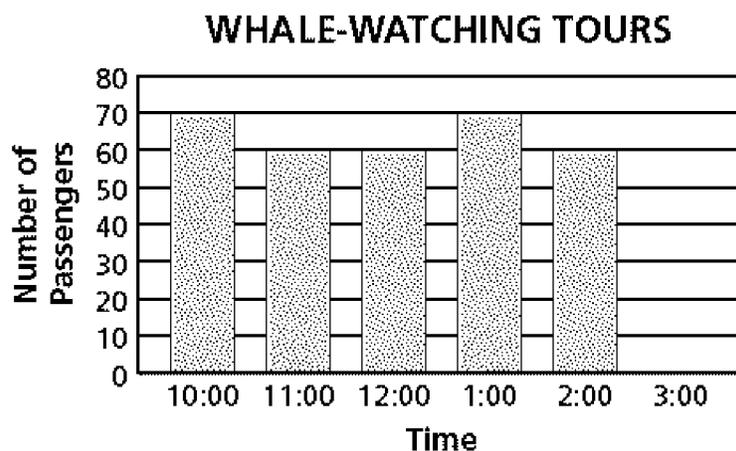
I added $70 + 70 = 140$ then

$60 + 60 = 120 + 60 = 320$ then

I subtracted $320 - 380 =$

60.

- 33 Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 13 \\
 +13 \\
 \hline
 26
 \end{array}$$

$$\begin{array}{r}
 70 \\
 60 \\
 60 \\
 +70 \\
 \hline
 260
 \end{array}$$

$$\begin{array}{r}
 260 \\
 + 60 \\
 \hline
 320
 \end{array}$$

$$\begin{array}{r}
 380 \\
 -320 \\
 \hline
 60
 \end{array}$$

Answer 60 passengers

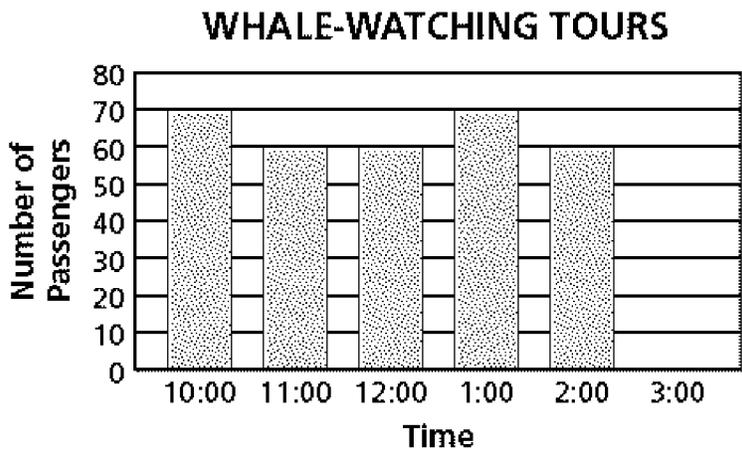
Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

Sheri is very likely to meet her goal because the pattern shows that at 3:00 she gets 60 passengers.

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 22 \\
 + \quad 6 \\
 \hline
 28
 \end{array}
 +
 \begin{array}{r}
 11 \\
 + \quad 6 \\
 \hline
 17
 \end{array}
 +
 \begin{array}{r}
 70 \\
 + 60 \\
 + 60 \\
 + 70 \\
 + 60 \\
 \hline
 280
 \end{array}
 +
 \begin{array}{r}
 280 \\
 + 100 \\
 \hline
 380
 \end{array}$$

Answer 100 passengers

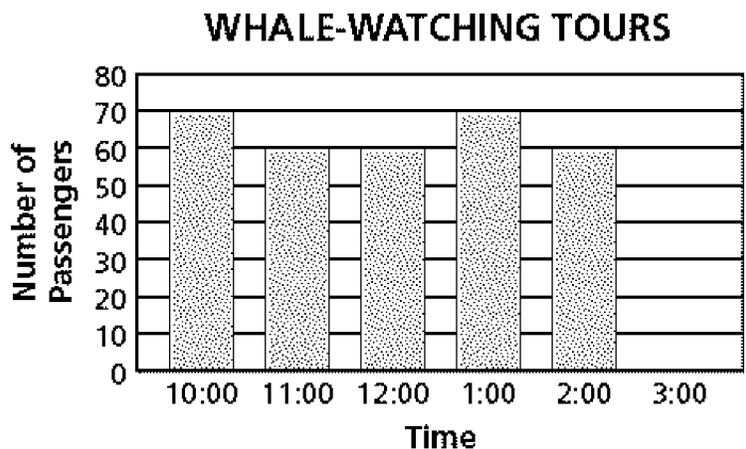
Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

Sheri won't meet her goal because she
needs 100 people on the 3:00pm boat, but she
doesn't even get 80 people on her tours.

33

Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

Answer 70 passengers

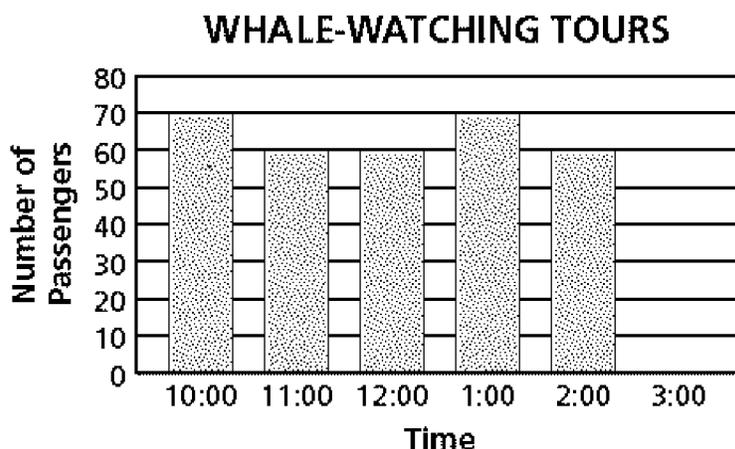
Handwritten work showing calculations for each time slot:
10:00: 70
11:00: 60
12:00: 60
1:00: 70
2:00: 60
3:00: 60

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

yes She is to meet Her
goal cause its like a pattern
One To two 60 One To two 60

- 33 Sheri operates whale-watching boat tours. The graph below shows the number of passengers on five of the tours for one day.



Part A

Sheri's goal is to have 380 passengers each day. How many passengers are needed on the 3:00 tour for Sheri to reach her goal?

Show your work.

$$\begin{array}{r}
 70 \\
 60 \\
 60 \\
 70 \\
 +60 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 60 \\
 +60 \\
 \hline
 120 \\
 +60 \\
 \hline
 180
 \end{array}
 \quad
 \begin{array}{r}
 70 \\
 +70 \\
 \hline
 140
 \end{array}
 \quad
 \begin{array}{r}
 180 \\
 +140 \\
 \hline
 320
 \end{array}
 \quad
 \begin{array}{r}
 380 \\
 -320 \\
 \hline
 60
 \end{array}$$

Answer 60 passengers

Part B

Use the data in the graph to explain whether Sheri is likely to meet her goal.

I think Sheri is likely to meet her goal. This is because the trend for the graph is 70, 60, 60, 70, 60. The next number of passengers is likely to be 60. Sheri needs 60 more passengers to reach her goal.

5th GRADE MATHEMATICS

Name: _____

PRACTICE SET ANSWER KEY

PS 1	(0-2)	
PS 2	(0-2)	
PS 3	(0-2)	
PS 4	(0-2)	
PS 5	(0-2)	
PS 6	(0-2)	
PS 7	(0-2)	
PS 8	(0-2)	
PS 9	(0-2)	
PS 10	(0-2)	
PS 11	(0-2)	
PS 12	(0-2)	
PS 13	(0-2)	
PS 14	(0-2)	
PS 15	(0-2)	
PS 16	(0-2)	
PS 17	(0-2)	
PS 18	(0-2)	
PS 19	(0-2)	
PS 20	(0-2)	

PS 21	(0-3)	
PS 22	(0-3)	
PS 23	(0-3)	
PS 24	(0-3)	
PS 25	(0-3)	
PS 26	(0-3)	
PS 27	(0-3)	
PS 28	(0-3)	
PS 29	(0-3)	
PS 30	(0-3)	
PS 31	(0-3)	
PS 32	(0-3)	
PS 33	(0-3)	
PS 34	(0-3)	
PS 35	(0-3)	
PS 36	(0-3)	
PS 37	(0-3)	
PS 38	(0-3)	
PS 39	(0-3)	
PS 40	(0-3)	