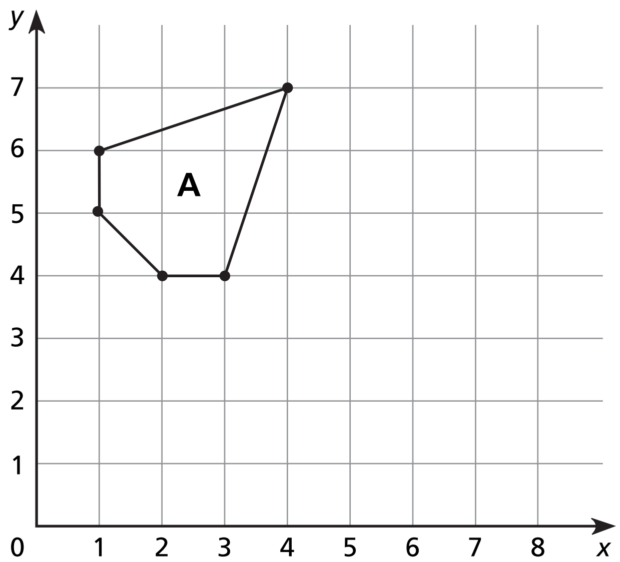
Name ________________________ Date ______________

Making Figures on a Coordinate Grid

1 Record the ordered pairs in the table below for Figure A.

Then follow the rule given to record new ordered pairs for Figure B. Write the shorthand rule.



2 Plot and connect the points for Figure B. Label Figure B.

A	**Coordinates (*x*,*y*)**					
B	**Subtract 4 from the second coordinate (x, $y - 4$)**					

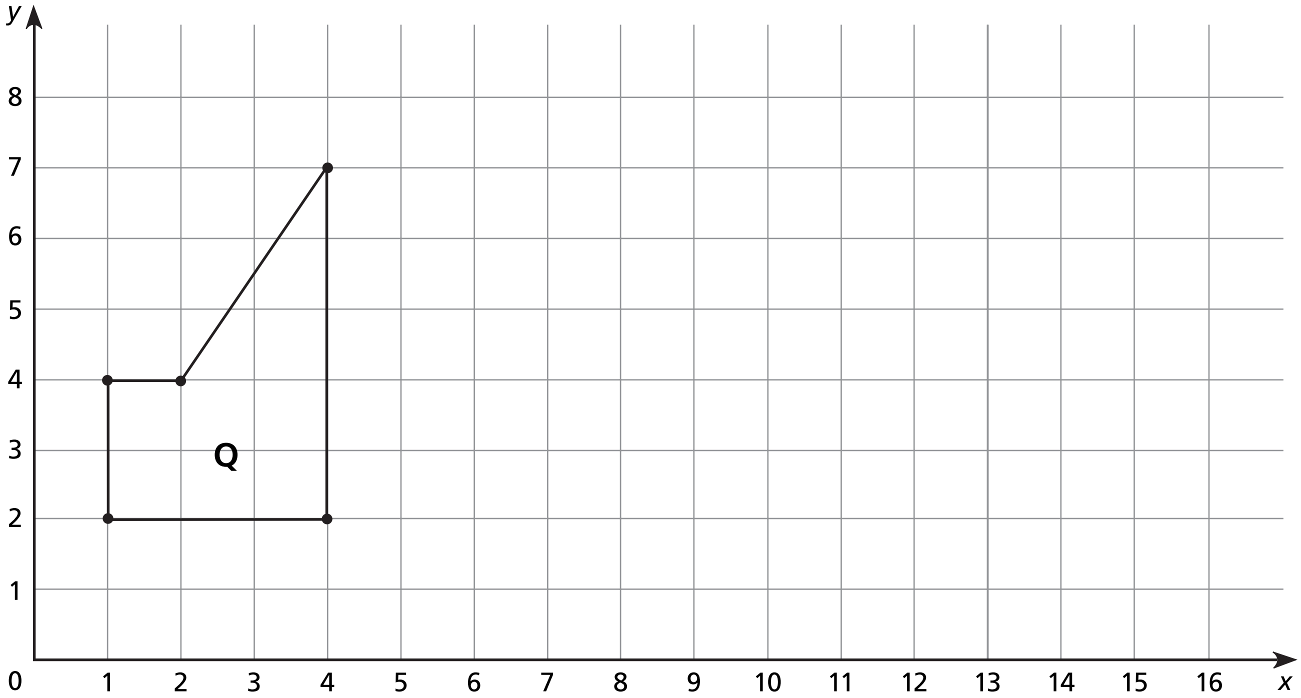
3 Record the ordered pairs in the table below for Figure B. Complete the table following the rule for Figure C.

4 Plot and connect the points for Figure C. Label Figure C.

B	**Coordinates (*x*,*y*)**					
C	**Add 4 to the first coordinate, add 2 to the second coordinate ($x + 4$, $y + 2$)**					

Name ______________________ Date ____________

Translating Figures on a Grid



Q					
R					
S					

1. In the first row of the table, record the coordinates of each vertex of Figure Q.

2. To fill in the second row of the table, add 9 to the *x*-coordinate of each vertex in Figure Q. Draw and connect the new vertices to make Figure R.

3. To fill in the third row of the table, subtract 5 from the *x*-coordinate of each vertex of Figure R. Use these new vertices to draw Figure S.

4. Describe a translation that moves Figure Q directly to Figure S.

____

____

Name ______________________ Date ____________

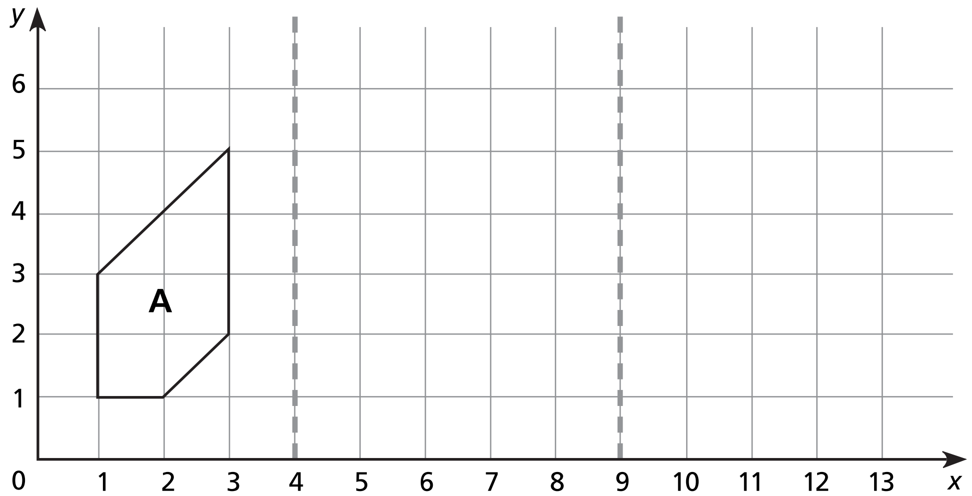
Extension
Lesson 3

Reflecting Figures on a Grid

1. If you reflect Figure A across the first dotted vertical line and then reflect the new figure across the second dotted vertical line, what do you think the final figure will look like? Don't draw the figure yet.

____

____



2. Try it and see! Draw Figures B and C and record the coordinates of their vertices in the table.

Figure A (original)					
Figure B (reflect A over the first dotted line)					
Figure C (reflect B over the second dotted line)					

3. Compare the coordinates of each vertex in Figures A and C. Find a rule for the translation of Figure A to Figure C.

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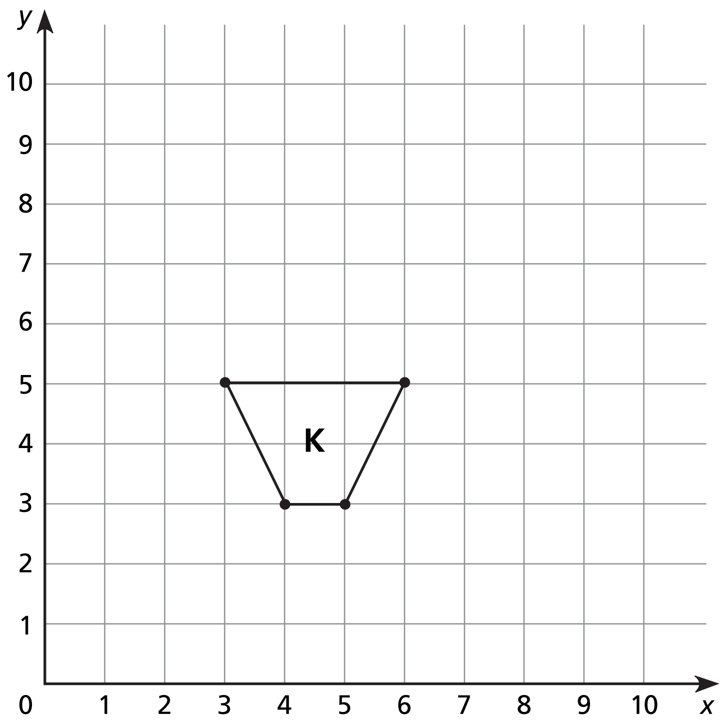
Name ________________________ Date ____________

Rotating Figures on a Grid

Draw each figure.

Record the coordinates of the vertices of Figure K and the corresponding vertices of Figures L, M and N in the table below.

1. To draw Figure L, rotate Figure K 180° around point (3,5).
2. To draw Figure M, rotate Figure L 180° around point (3,5).
3. To draw Figure N, rotate Figure L 180° around point (2,7).



K	L	M	N
(3,5)			
(6,5)			

4. What transformation will move Figure N onto Figure K?

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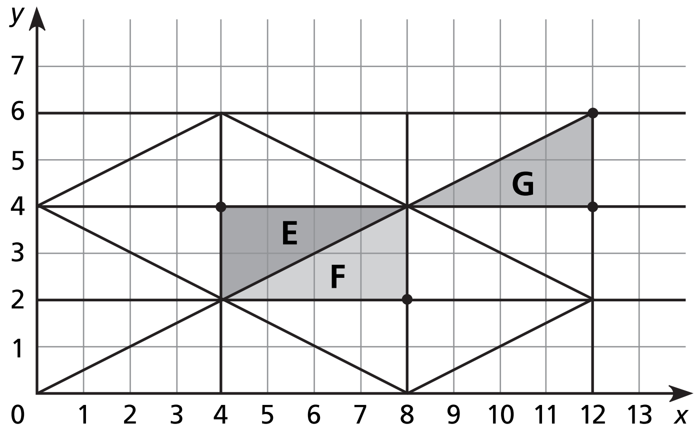
Name ______________________ Date ______________

More About Transformations



1. Describe two ways to turn Figure E into Figure G using one or more translations, reflections, or rotations.

   1. ______________________________

   ____

   2. ______________________________

   ____

2. Describe two ways to turn Figure G into Figure F.

   1. ______________________________

   ____

   2. ______________________________

   ____

3. Describe two ways to turn Figure F into Figure E.

   1. ______________________________

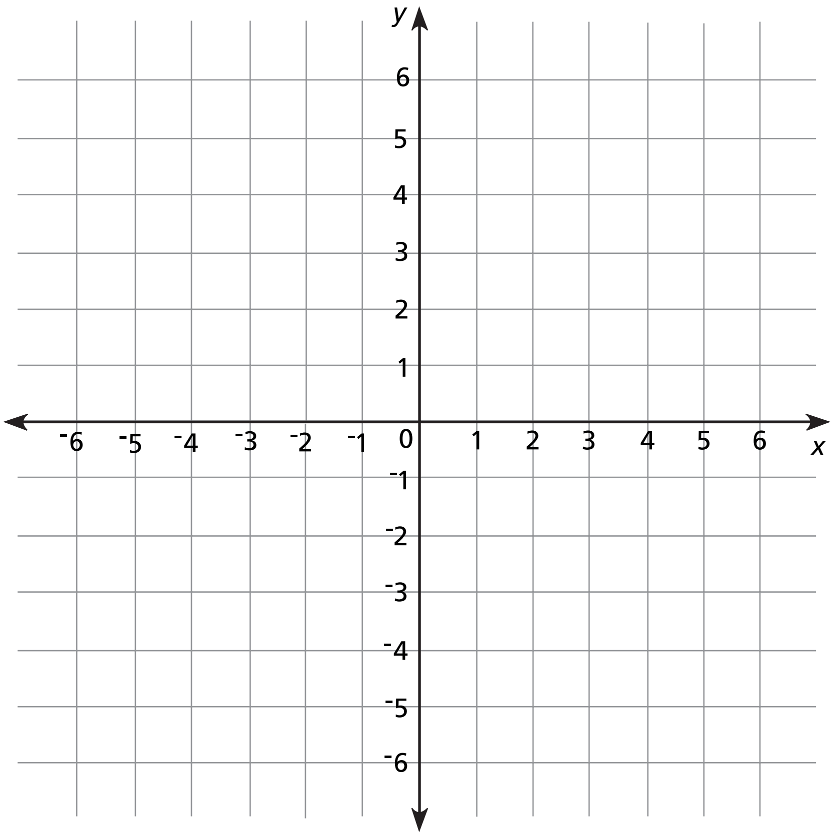
   ____

   2. ______________________________

   ____

Name ______________________ Date ______________

Graphing with Negative Numbers



Graph and label the following points. The challenge is finding a place to start!

Point	*x*-coordinate	*y*-coordinate
A	5 more than the *x*-coordinate of *D*	5
B	1 less than the *x*-coordinate of *F*	5 more than the *y*-coordinate of *G*
C	3 less than the *x*-coordinate of *D*	2 more than the *y*-coordinate of *A*
D	2 less than the *x*-coordinate of *G*	3 less than the *y*-coordinate of *E*
E	the same as the *x*-coordinate of *B*	6 less than the *y*-coordinate of *C*
F	10 less than the *x*-coordinate of *A*	6 less than the *y*-coordinate of *B*
G	3	3 less than the *y*-coordinate of *D*

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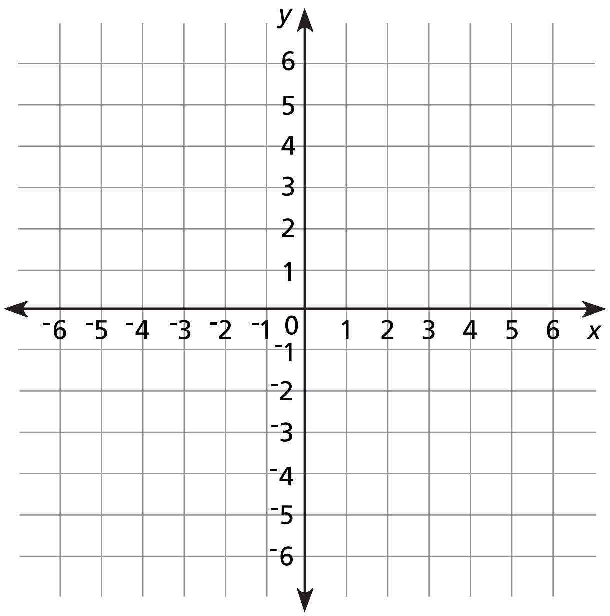
Moving on a Coordinate Grid

Find and mark the point with coordinates (2,5) on the grid. Then draw and label points and lines on the grid to meet each of the sets of conditions below.



1. Mark the point with coordinates (2,1). Draw a line so that the reflection of (2,1) across that line will be (2,5). Label the line *A.*

2. Mark the point with coordinates (2,$^-$3). Draw a line so that the reflection of (2,$^-$3) across that line will be (2,5). Label the line *B.*

3. Mark the point with coordinates ($^-$4,5). Draw a line so that the reflection of (2,5) across that line will be ($^-$4,5). Label the line *C.*

4. Mark the point with coordinates ($^-$4,$^-$1). Draw a line so that the reflection of ($^-$4,5) across that line will be ($^-$4,$^-$1). Label the line *D.*

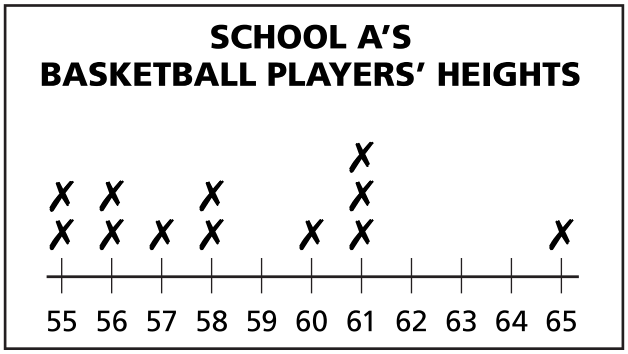
5. Mark the point with coordinates (4,$^-$1). Draw a line so that the reflection of ($^-$4,$^-$1) across that line will be (4,$^-$1). Label the line *E.*

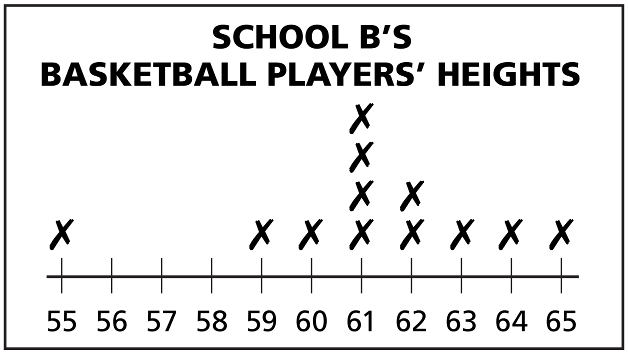
6. Mark the point with coordinates (4,1). Draw a line so that the reflection of (4,$^-$1) across that line will be (4,1). Label the line *F.*

Name ____________________ Date ____________

Extension
Lesson 8

Graphing Data





1. The minimum, maximum, range, and mode are the same for these teams, but there is something that is not the same. How might you describe this difference?

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____

____

2. Why might these groups be so different?

____

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____

3. How could you measure the difference in these teams?

____

____

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Name ______________________ Date ______________

Extension
Lesson 9

What Is Typical?

1 Use your table of data from the cafeteria survey on Activity Master 50. Record your results as fractions in the table below. (Remember, the denominator is the number of people you surveyed.)

	FRACTION
carrots and dip	
pretzels	
fruit cup	
red apples	
1% milk	
pretzels or milk	
fruit cup or apples	
carrots or fruit or pretzels or milk	

2 Did your fractions sum to 1? Why or why not?

Name ________________________________ Date ______________

Another Way of Describing What's Typical

Knight Elementary School has 61 fifth graders. Their median score on the January mathematics test was 63 points, and the highest score was 90.

1. If every student who scored above 75 on the test later improved at least 10 points on the February test, and all the other students scored just as they did in January, how does the median change? Will the mean change?

____

____

____

2. If every student who scored above 65 in January improved at least 10 points in February, and the other students' scores stayed the same, how does the median change?

____

____

3. If every student who scored 60 or above scored 10 points higher in February than January (and the other scores stayed the same), how does the median change?

____

____

Name ______________________ Date ______________

Extension
Lesson 11

Reading Graphs and Tables

Choose at least 6, but no more than 12 names of students in your class.

1. Write each name with one letter on each blank as shown here.

M	A	T	T	H	E	W
H	E	A	T	H	E	R
J	U	A	N			

2. What is the mean number of letters in the names you wrote? ______________

3. Explain the method you used to figure out the mean number of letters.