G5-M6-Lesson 11

1. Complete the tables for the given rules.

Line p

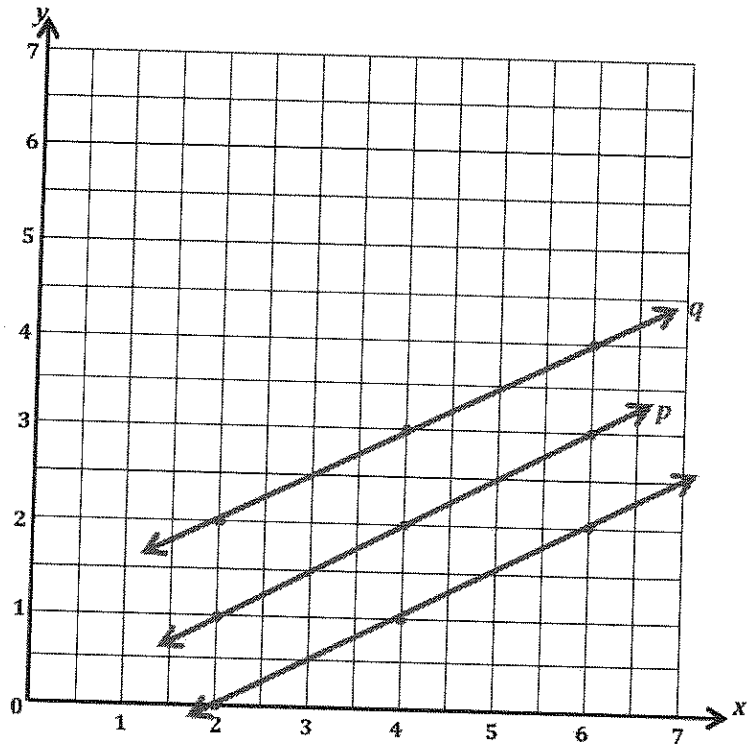
Rule: *Halve x.*

x	y	(x, y)
2	1	(2, 1)
4	2	(4, 2)
6	3	(6, 3)

Line q

Rule: *Halve x, and then add 1.*

x	y	(x, y)
2	2	(2, 2)
4	3	(4, 3)
6	4	(6, 4)



a. Draw each line on the coordinate plane above.

b. Compare and contrast these lines.

Line q is *above* line p because the rule says, "*then add* 1."

They are parallel lines. Line q is above line p. The distance between the two lines is 1 unit.

c. Based on the patterns you see, predict what the line for the rule "halve x, and then subtract 1" would look like. Draw your prediction on the plane above.

I predict the line will be parallel to lines p and q.

It will be 1 unit below line p because the rule says, "then subtract 1."

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I need to look for coordinate pairs that follow the rule, "*double x, and then add* $\frac{1}{2}$."

2. Circle the point(s) that the line for the rule "*double x, and then add* $\frac{1}{2}$" would contain.

$(0, 1)$ $\left(3, 6\frac{1}{2}\right)$ $\left(2, \frac{1}{2}\right)$ $\left(\frac{3}{4}, 2\right)$ $\left(0, \frac{1}{2}\right)$ $\left(2, 4\frac{1}{4}\right)$

$3 \times 2 = 6$
$6 + \frac{1}{2} = 6\frac{1}{2}$

$\frac{3}{4} \times 2 = \frac{6}{4}$
$= 1\frac{1}{2}$

$0 \times 2 = 0$
$0 + \frac{1}{2} = \frac{1}{2}$

3. Give two other points that fall on this line.

$\left(\frac{1}{2}, 1\frac{1}{2}\right)$ $\left(1, 2\frac{1}{2}\right)$

I choose values for the x-coordinates. Then I doubled them and added $\frac{1}{2}$ to get the y-coordinates.

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