

Name _____

Date _____

1. Use the coordinate plane to complete the following tasks.

- Line p represents the rule x and y are equal.
- Construct a line, d , that is parallel to line p and contains point D .
- Name 3 coordinate pairs on line d .

$(\frac{1}{2}, 2\frac{1}{2}), (1\frac{1}{2}, 3\frac{1}{2}), (3, 5)$

- Identify a rule to describe line d .

The y coordinate is 2 more than the x coordinate.

- Construct a line, e , that is parallel to line p and contains point E .

- Name 3 points on line e .

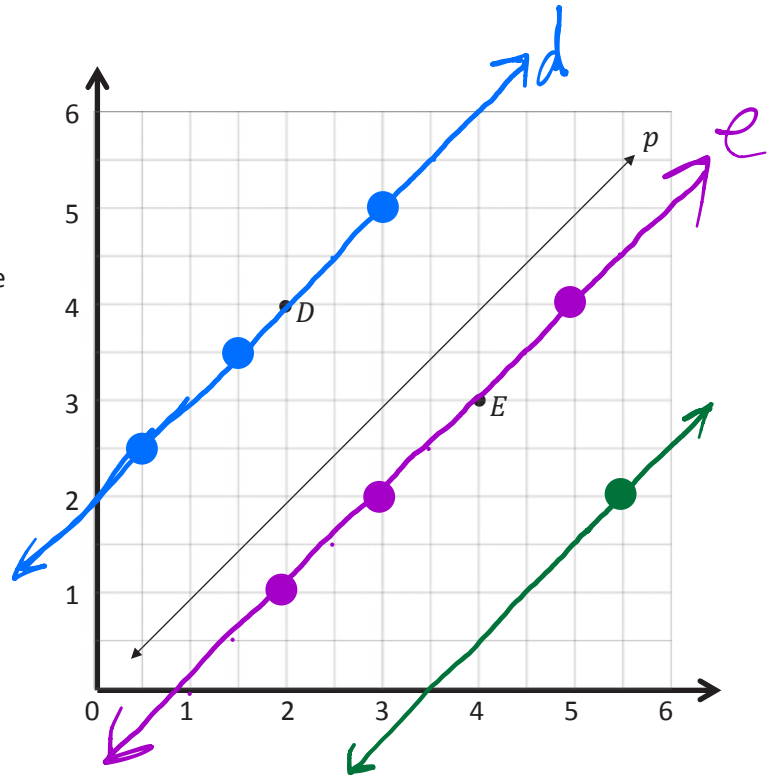
$(2, 1), (3, 2), (5, 4)$

- Identify a rule to describe line e .

The y coordinate is 1 less than the x coordinate.

- Compare and contrast lines d and e in terms of their relationship to line p .

(Answers will vary.) d is above p , while e is below.



2. Write a rule for a fourth line that would be parallel to those above and that would contain the point $(5\frac{1}{2}, 2)$. Explain how you know.

(Answers will vary.)

The y is $3\frac{1}{2}$ less than x . This is correct because $5\frac{1}{2} - 3\frac{1}{2} = 2$.

3. Use the coordinate plane below to complete the following tasks.

- a. Line p represents the rule x and y are equal.
- b. Construct a line, v , that contains the origin and point V .

- c. Name 3 points on line v .

$(1, 2), (3, 6), (5, 10)$

- d. Identify a rule to describe line v .

y is 2 times x .

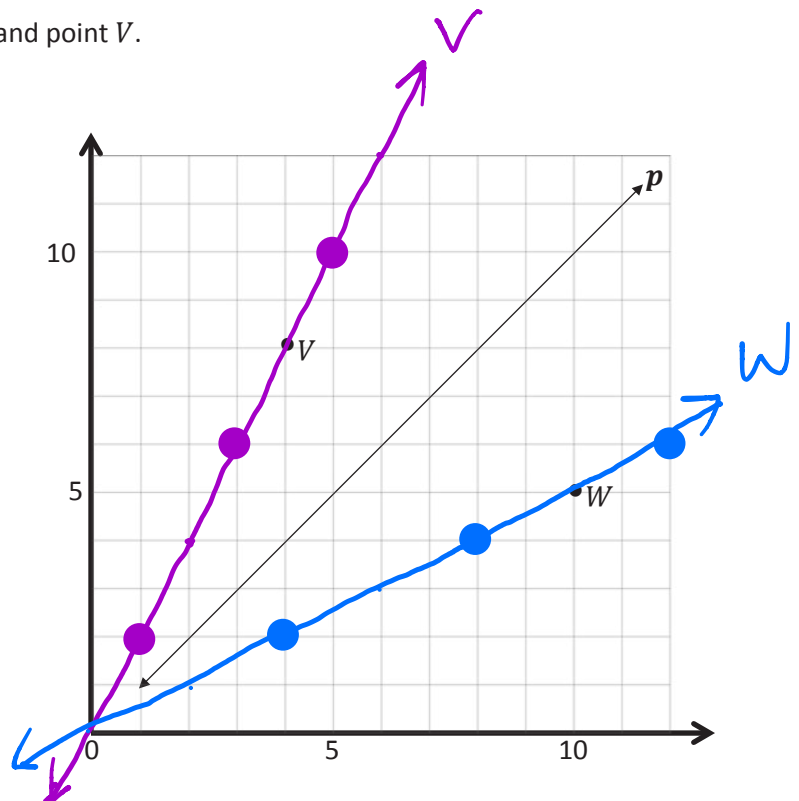
- e. Construct a line, w , that contains the origin and point W .

- f. Name 3 points on line w .

$(4, 2), (8, 4), (12, 6)$

- g. Identify a rule to describe line w .

y is $\frac{1}{2}$ as much as x .



- h. Compare and contrast lines v and w in terms of their relationship to line p .

v is steeper than Line p . Line w is less steep than Line p .

- i. What patterns do you see in lines that are generated by multiplication rules?

Multiplying by a number greater than 1 creates a steep line.
Multiplying by a fraction less than 1 creates a non-steep line.