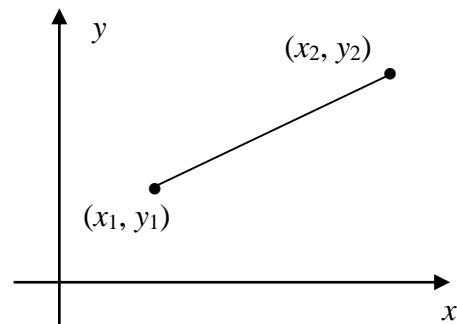


Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Geometry Notes CG - 1: Slope

Slope =



Ex: Find the slope of the line through the points  $(-3, 2)$  and  $(3, -1)$ .

Four cases:

1.

2.

3.

4.

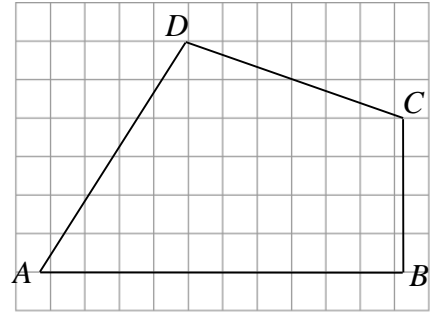
Ex: Find the slope of  $\overline{PQ}$  if  $P(a, a + b)$  and  $Q(5a, b - 2a)$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Geometry HW: CG - 1

1. Find the slope of each side of quadrilateral  $ABCD$  shown in the figure at right.



2. Find the slope of the line segment joining each pair of points.

a.  $(-23, 39)$  and  $(58, -15)$

b.  $(a, 3a - b)$  and  $(a + 2b, 3a - 5b)$

3. Find the value of  $x$  so that the line passing through the points  $(3, -2)$  and  $(x, 6)$  will have an undefined slope.

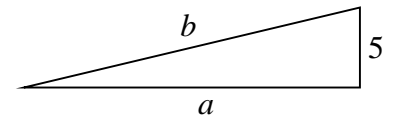
4. Find the value of  $k$  so that the line passing through  $(3, -2)$  and  $(3k + 5, k - 6)$  will have a slope of  $3/2$ .

5. Find two values of  $a$  so that the line passing through  $(a, 10)$  and  $(7, a^2 - 3a)$  will have a slope of 0.

6. Determine if the three points  $R(-7, -5)$ ,  $S(5, 2)$  and  $T(12, 6)$  are collinear. Justify your answer. (Think: If all three are on the same line, what must be true about the slopes of  $\overline{RS}$  and  $\overline{ST}$ ?)
7. Find the value of  $x$  that will make the points  $J(-4, 15)$ ,  $K(x, 10)$  and  $L(14, 3)$  collinear.
8. A ladder 15 feet long leans against a vertical wall. The top of the ladder is 12 feet above the level ground. What is the slope of the ladder (assume it's positive)?

9. Tommy Hawk is building a skateboard ramp. He wants it to have a slope of  $\frac{2}{7}$  and a vertical rise (height) of 5 feet.

a. What horizontal distance will the ramp cover?



b. How long will the actual ramp be?

10. A certain roof has a pitch (a builder's word for slope) of  $\frac{5}{12}$  on each side. The entire roof is to be 32 feet wide. How high will the ridge line be above the attic floor?

