Geometry Notes CG - 4: Distance Formula
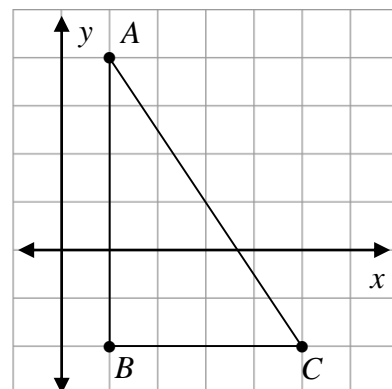
Ex: $A(1, 4)$, $B(1, -2)$ and $C(5, -2)$

a. Horizontal segment: find the distance from B to C

   1.
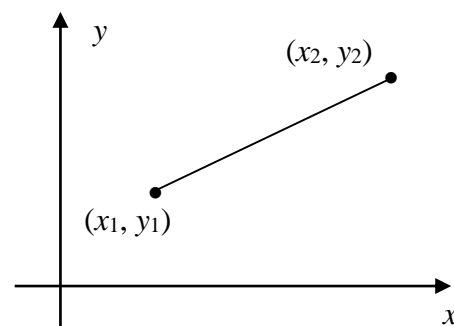
   2.

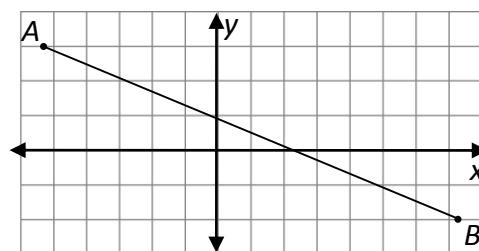b. Vertical segment: find the distance from A to B

   1.

   2.

c. Diagonal segment: find the distance from A to C

   1.

   2.

Distance Formula

Ex: Find the length of $\overline{RS}$ in the graph at right.
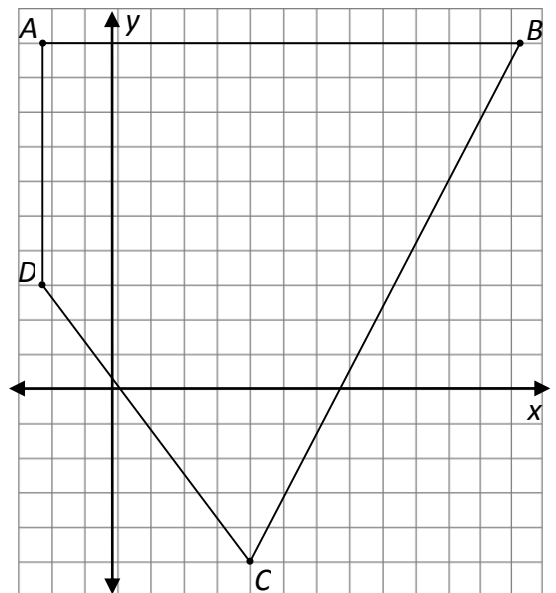
Ex: Find the distance between (35, 112) and (–17, 48).

Ex: Find the distance between the points $(a, a + b)$ and $(5a, b – 2a)$.

Ex: Find the length of $\overline{JK}$ with endpoints $J(42, 63)$ and $K(42, –37)$.

Ex: Find the length of $\overline{PQ}$ with endpoints $P(18, –29)$ and $Q(46, 67)$.

Ex: Find the perimeter of quadrilateral $ABCD$
shown in the graph at right.

Geometry HW: CG - 4

Show appropriate work.

1. Find the distance between each pair of points:
   a. (25, 72) and (85, 72)

   b. (a, b) and $(a + b, 3b)$

2. The coordinates of the endpoints of a diameter of a circle are $P(-1, 4)$ and $Q(7, -2)$.
   a. Find the circumference of the circle in terms of π.

   b. Find the circumference of the circle to the nearest hundredth.

   c. Find the area of the circle in terms of π. ($C = \pi d = 2\pi r.$)

   d. Find the area of the circle to the nearest hundredth. ($A = \pi r^2.$)

3. a. Graph the lines $y = 2$, $x = 6$ and $y = x$ on one set of axes.
   b. Find the perimeter of the triangle formed by the three lines in part (a).

   c. Find the area of the triangle formed by the three lines in part (a).

4. a. Find the distance from the point (2, 5) to the line $y = 1$.
   b. Find the distance from the point (2, 5) to the line $x = 6$.