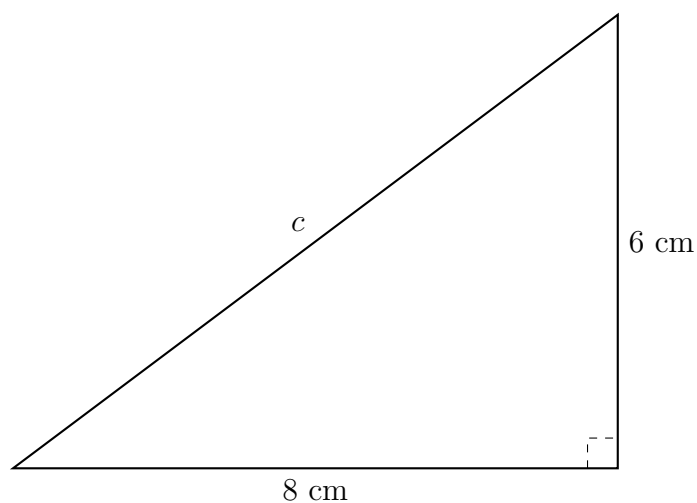


Name:

BECA / Dr. Huson / Geometry 04 Analytic Geometry

**4.2 Distance Formula**

1. Do Now: Use a centimeter ruler to measure the triangle side lengths.



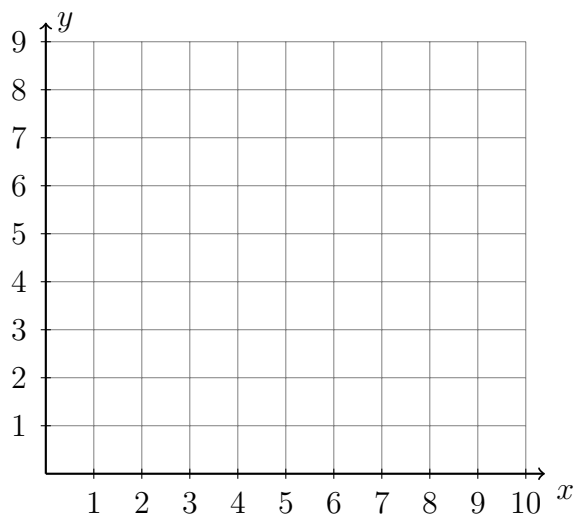
Note: The formula for distance is  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

2. Graph and label  $\triangle ABC$ . Calculate the lengths of its sides.  $A(1, 2)$ ,  $B(9, 8)$ ,  $C(9, 2)$ .

(a)  $AC =$

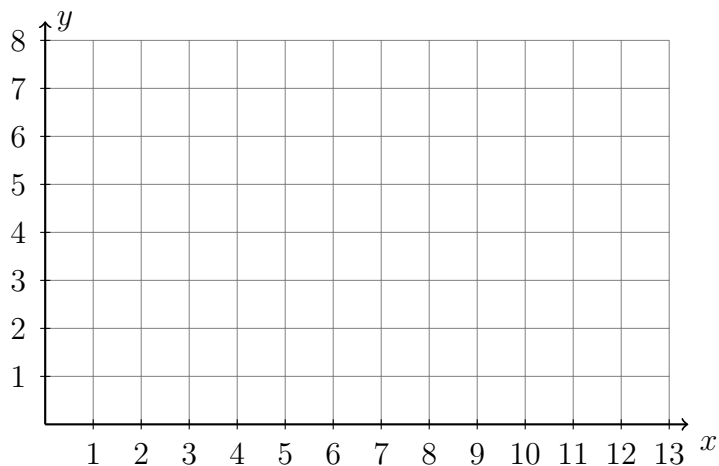
(b)  $BC =$

(c)  $AB =$

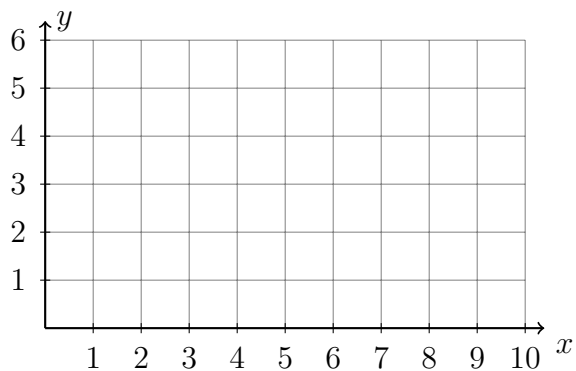


3. What is the length of  $\overline{CD}$  if  $C(3, -1)$  and  $D(-2, 11)$ ?

4. Graph and label  $\triangle ABC$ . Calculate the lengths of its sides.  $A(0, 0)$ ,  $B(12, 5)$ ,  $C(12, 0)$ .



5. On the graph below, draw  $\overline{EF}$ , with  $E(3, 5)$  and  $F(9, 1)$ , labeling the end points. Determine and state the coordinates of the midpoint  $M$  of  $\overline{EF}$  and mark and label it on the graph.



6. Spicy: In  $\triangle ABC$  shown below,  $m\angle A = (10x)^\circ$ ,  $m\angle B = (16x - 5)^\circ$ , and  $m\angle C = (2x + 3)^\circ$ .

Find  $m\angle A$ . (show the check for full credit)

