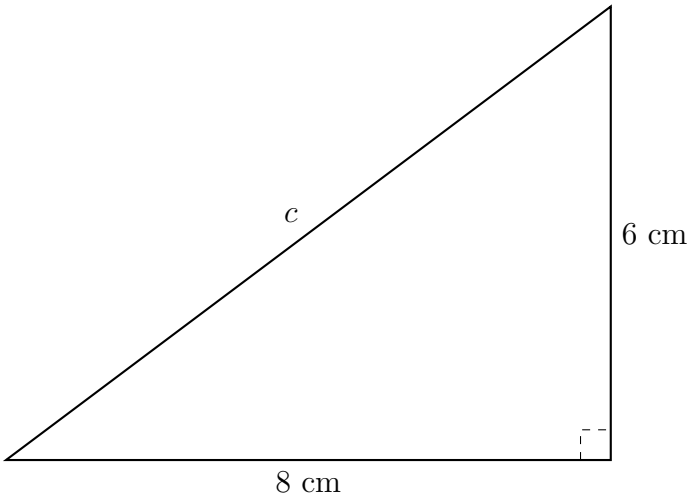
5.3 Classwork: Distance formula

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



2. What is the length of $\overline{PQ}$ if $P(3,1)$ and $Q(9,1)$?

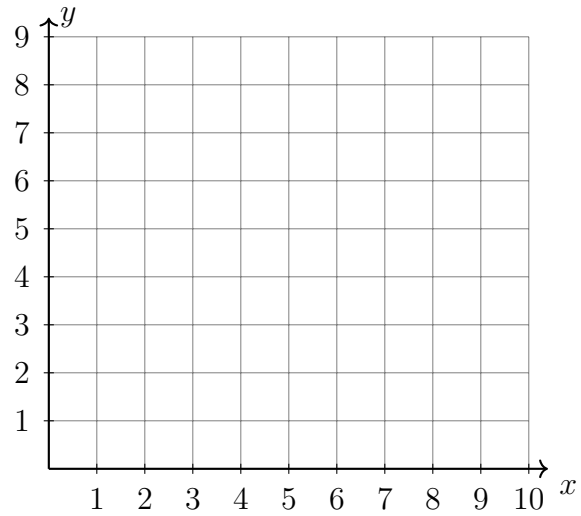
Note: The formula for distance is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

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

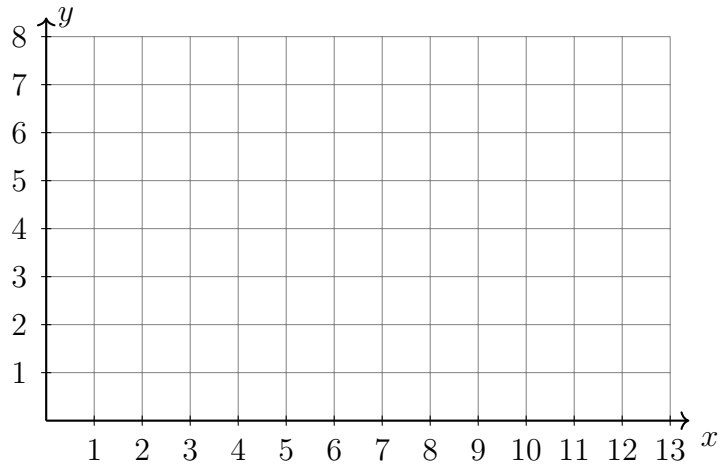
(a) $AC =$

(b) $BC =$

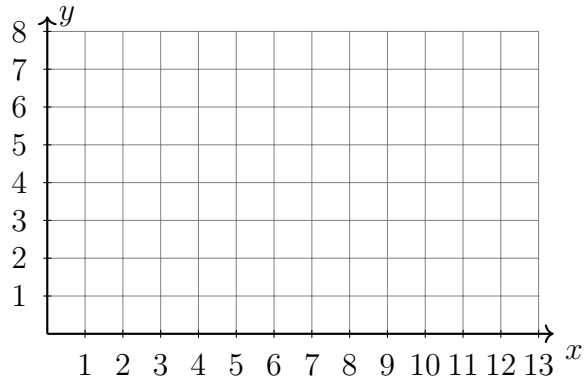
(c) $AB =$



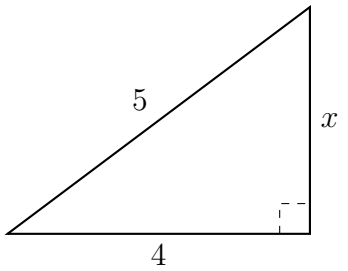
4. Graph and label $\triangle ABC$. Calculate the lengths of its sides. $A(0,0)$, $B(12,5)$, $C(12,0)$.



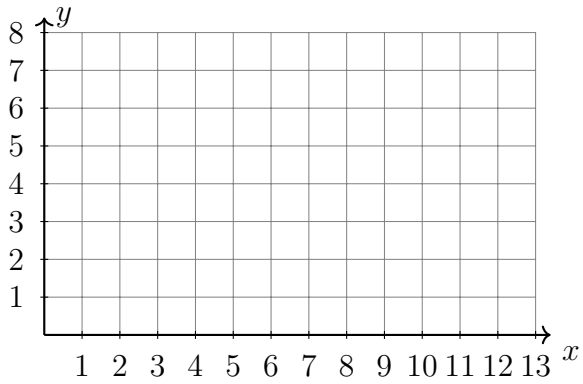
5. Graph and label $\triangle CAT$. Calculate the lengths of its sides. $C(2,1)$, $A(12,6)$, $T(12,1)$. Leave the result as a (simplified) radical if necessary, not a decimal approximation.



6. The base of a right triangle is 4 centimeters long and its hypotenuse is 5 cm. Find its height, x cm.



7. Graph and label $\triangle CAT$. Calculate the lengths of its sides. $C(1, 2)$, $A(10, 8)$, $T(10, 2)$.



8. The base of a right triangle is 8 centimeters long and its hypotenuse is 10 cm. Find its height, x cm.