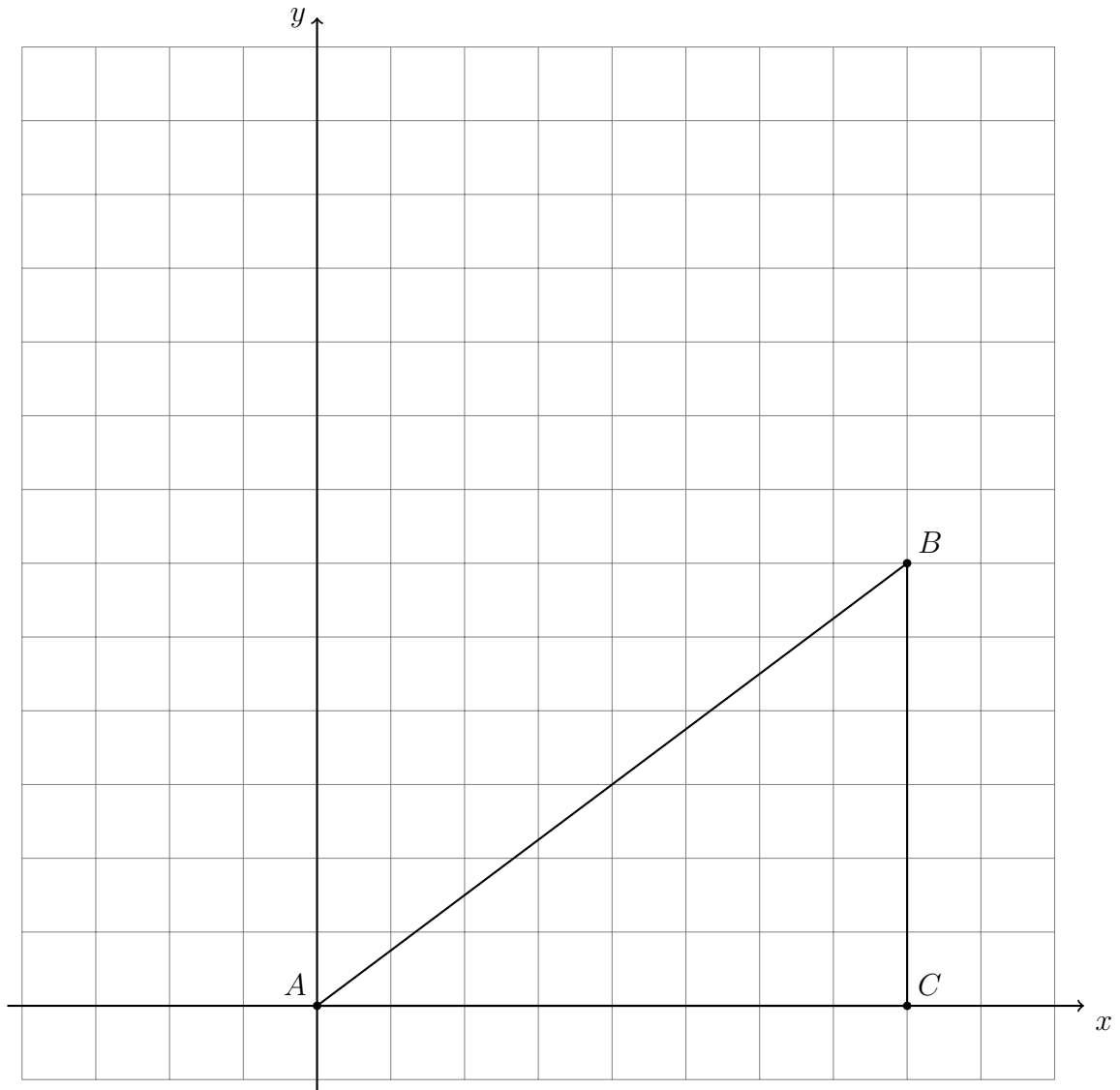


#### 6.4 Do Now: Quadratic graphs and transformations

- Below, right  $\triangle ABC$  is shown in standard position with  $A(0,0)$ ,  $B(8,6)$ , and  $C(8,0)$ .  
Measure the lengths of the sides of the triangle in centimeters and mark them on the diagram.

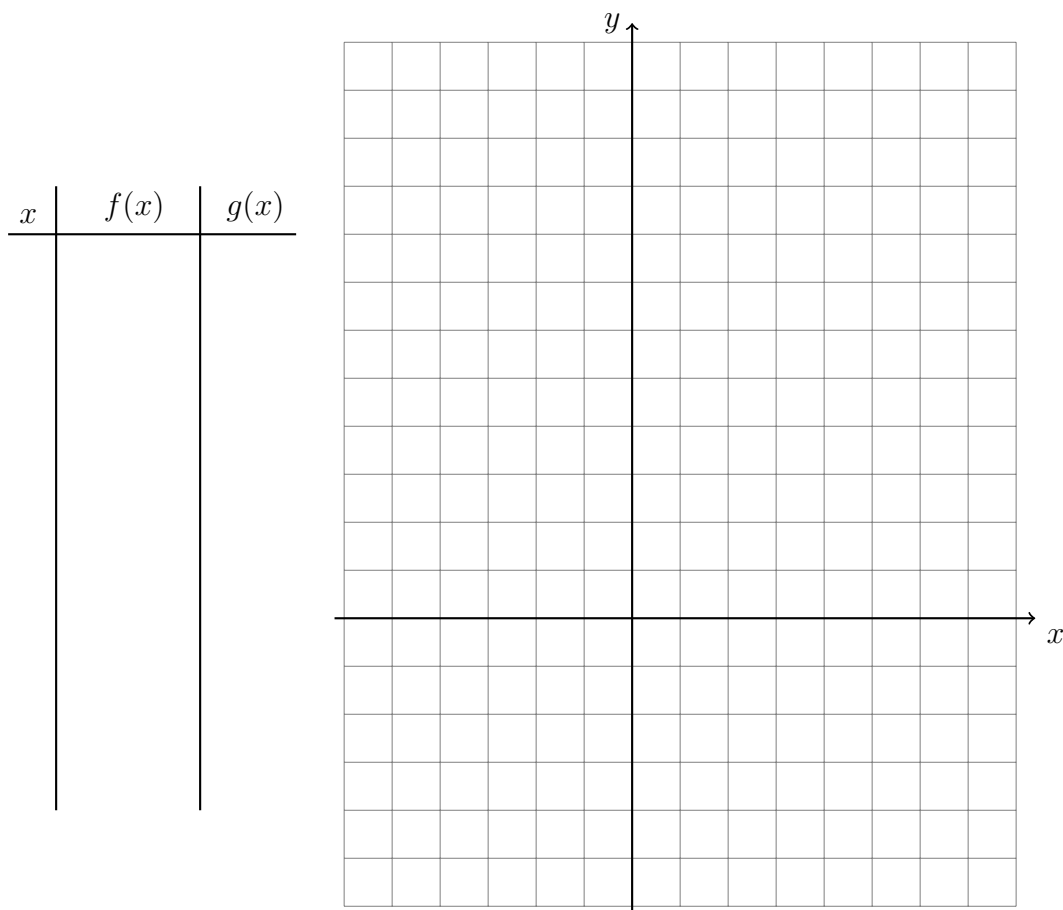


- Mark the vertex of another right triangle in standard position,  $D(5,12)$ .
- Mark the point  $E$  on the  $x$ -axis such that  $\overline{AE} \perp \overline{DE}$ .
- Measure and mark the dimensions of  $\triangle ADE$  on the graph.

2. Complete the t-chart for  $x = -3, -2, -1, 0, 1, 2, 3$ , then graph and label the function on the grid below, labeling the vertex on the graph as an ordered pair.

Use pencil for graphs. Draw parabolas as smooth curves.

$$f(x) = x^2$$



- (a) The parabola is translated two units up,  $f \rightarrow g$ .

Draw the parabola  $g(x)$  on the graph, marking and labeling its vertex.

- (b) Complete the t-chart values for  $g(x)$ .

- (c) What is the equation of  $g(x)$ ?