Copying an angle

|  | After doing this | Your work should look like this |
| :---: | :---: | :---: |
| Step $1$ | Start with an angle BAC that we will copy. |  |
| Step <br> 2 | Make a point $P$ that will be the vertex of the new angle. |  |
| Step <br> 3 | From P, draw a ray $P Q$. This will become one side of the new angle. <br> This ray can go off in any direction. <br> It does not have to be parallel to anything else. <br> It does not have to be the same length as AC or $A B$. |  |


|  | After doing this | Your work should look like this |
| :---: | :---: | :---: |
| Step <br> 4 | Place the compasses on point A, set to any convenient width. |  |
| Step <br> 5 | Draw an arc across both sides of the angle, creating the points J and K as shown. |  $\stackrel{\rightharpoonup}{ }$ |
| Step <br> 6 | Without changing the compasses' width, place the compasses' point on $P$ and draw a similar arc there, creating point M as shown. |   |
| Step <br> 7 | Set the compasses on K and adjust its width to point J . |  |


|  | After doing this | Your work should look like this |
| :---: | :---: | :---: |
| Step <br> 8 | Without changing the compasses' width, move the compasses to $M$ and draw an arc across the first one, creating point $L$ where they cross. |  |
| Step <br> 9 | Draw a ray PR from $P$ through $L$ and onwards a little further. The exact length is not important. |  |
| $\begin{aligned} & \text { Step } \\ & 10 \end{aligned}$ | Done. The angle $\angle R P Q$ is congruent (equal in measure) to angle $\angle B A C$. |  |

