Applying Properties of Similar Triangles

Name_____

1) Given $\overline{NM} \parallel \overline{XY}$, find *a*.



2) Given the diagram below, determine whether \overline{PQ} is parallel to \overline{TR} .



3) In the diagram below, $\angle 1 \cong \angle 2 \cong \angle 3$, AB = 6, BC = 9, EF = 8. Find *DE*.



4) Solve for x.



5) Luke, who is 6 ft. 3 in. tall casts a 7 ft. shadow on the ground at a particular time on a sunny day. Ian and Hunter think that this info might be relevant towards finding the height of a nearby flagpole whose shadow is 14 ft. 2 in. long. Since Hunter and Ian are too busy bickering over their Spotify playlist, help them find the height of the flagpole.



6) Given $\triangle ABC \sim \triangle DEF$, BC = 4 ft, EF = 12 ft, perimeter of $\triangle DEF = 42$ ft, and area of $\triangle DEF = 96$ ft². Find the perimeter and area of $\triangle ABC$. (Note: It may be helpful to drawing the similar triangles.)