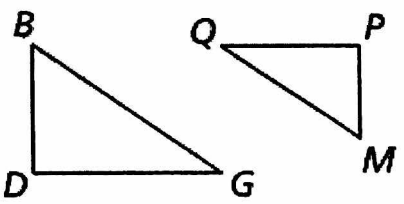
Name: Key Date: Period:

HW #8-4: Quiz Review

List all pairs of congruent angles. Then write the ratios of the corresponding side lengths in a statement of proportionality.

$\triangle BDG \sim \triangle MPQ$



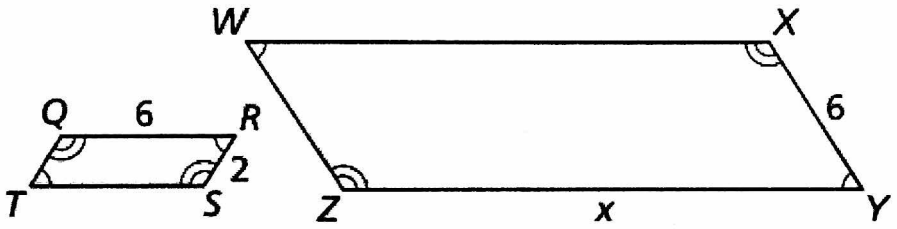
$\angle B \cong \angle M$

$\angle D \cong \angle P$

$\angle G \cong \angle Q$

$\frac{BD}{MP} = \frac{BG}{MQ} = \frac{DG}{PQ}$

2. The polygons are similar. Find the value of x.



$\frac{12}{16} = \frac{6}{x}$

$x = 18$

3. Two similar triangles have a pair of corresponding sides of length 12 m and 8 m. The larger triangle has a perimeter of 48 m and an area of 180 m^2. Find the perimeter and area of the smaller triangle.

32 m

80 m^2

4. The dimensions of an official hockey rink used by the National Hockey League (NHL) are 200 feet by 85 feet. The dimensions of an air hockey table are 96 inches by 40.8 inches. Assume all corresponding angles are congruent.
   a. Determine if the two surfaces are similar *HINT: you will want to convert feet → inches or inches → feet. Always work with the same units throughout!!!*

yes, they are similar

b. If the two figures are similar, find the ratio of their perimeters and the ratio of their areas. If not, find the dimensions of an air hockey table that IS similar to the NHL hockey rink.

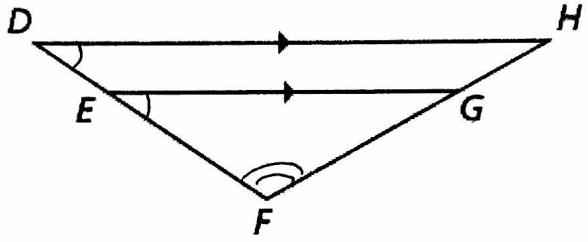
25 or $\frac{1}{25}$

625 or $\frac{1}{625}$

5. A cellular telephone tower casts a shadow that is 72 feet long, while a nearby tree that is 27 feet tall casts a shadow that is 6 feet long. How tall is the tower?

324 feet tall

6. Write a two-column proof.
Given: $\overline{DH} \parallel \overline{EG}$
Prove: $\Delta FDH \sim \Delta FEG$



Statements	Reasons
① $\overline{DH} \parallel \overline{EG}$	① given
② $\angle D \cong \angle GEF$	② $\parallel \rightarrow$ corresp. $\angle$s $\cong$
③ $\angle F \cong \angle F$	③ reflex. prop. $\cong$
④ $\Delta EFG \sim \Delta DFH$	④ AA $\sim$