Name _____ **Hour** _____

Use the following information to answer questions 1 and 2.

The longest ship ever constructed was the Knock Nevis, which had an overall length of 1,504 feet.

1. The Hong Kong Maritime Museum would like a scale model of the ship. If the model has a scale of 1 inch : 32 feet, what is the length of the completed model?

2. Keeping the same scale, if the model is approximately 7 inches wide, what is the width of the actual ship?

Solve.

3. The perimeter of a rectangle is 60 feet. The ratio of the width to the length is $3:7$. Find the length and width.

4. The area of a rectangle is 720 square feet. The ratio of the width to the length is $5:9$. Find the length and width.

5. The measures of the angles in a triangle are in the extended ratio of $1:3:5$. Find the measures of the angles.

6. The lengths of the sides of a triangle are in the extended ratio of $6:7:9,$ and the perimeter of the triangle is 121 centimeters. Find the length of each side of the triangle.

$\triangle JKL \sim \triangle MNO$. Determine whether the statement is *true* or *false*.

7. $\dfrac{KL}{NO} = \dfrac{JK}{MO}$
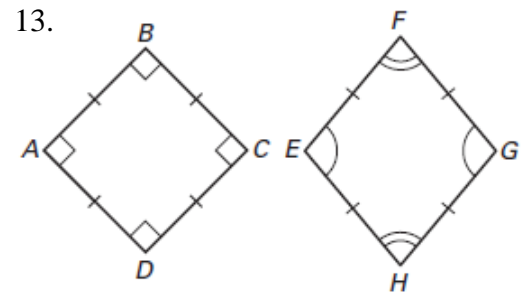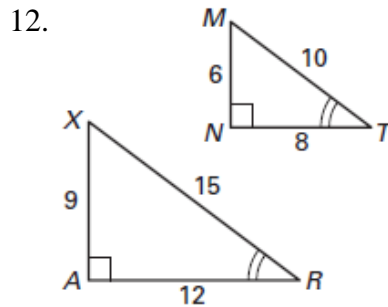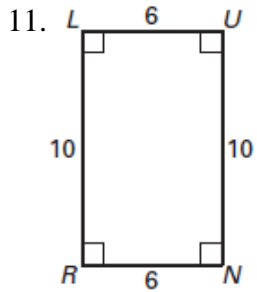
8. $\angle N \cong \angle L$

Use the given information to complete the statement.

9. If $\triangle PQR \sim \triangle STU$, then $\dfrac{RQ}{UT} = \dfrac{}{TS}$.

10. If $\triangle DEF \sim \triangle GHI$, then $\angle I \cong$ _____.

Similar Polygons #2

Are the polygons similar? If they are similar, write a similarity statement and state the scale factor. If they are not similar, explain why.

11. *L* ___6___ *U*
C _4_ *F*
10 | 10 8 | 8
R ___6___ *N*
T _4_ *Q*

12. *M*, *X*, *N*, *T*, *A*, *R*
10, 6, 8, 15, 9, 12

13. *B*, *F*, *A*, *C*, *E*, *G*, *D*, *H*

In the diagram, *ABCD* ~ *GHIJ*.
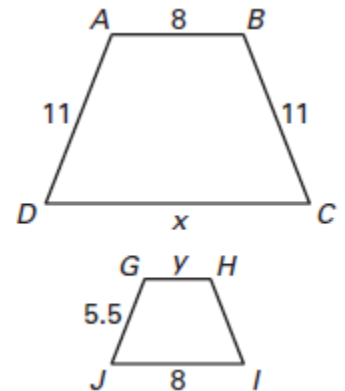
14. Find the scale factor of *ABCD* to *GHIJ*.

15. Find the value of *x*.

16. Find the value of *y*.

17. Find the perimeter of *ABCD*.

18. Find the perimeter of *GHIJ*.

19. Find the ratio of the perimeter of *GHIJ* to the perimeter of *ABCD*.

A 8 *B*
11   11
D *x* *C*

G *y* *H*
5.5
J 8 *I*

The two polygons are similar. Find the scale factor and the value of *x*.

20.
25
40
30
6*x*

21.
32
28
16
$x + 26$
35
20

22.
$2x - 29$
33
27
21
77
63

23.
24
24
$3x + 7$
6
6
7