SECONDARY MATH II // MODULE 6

SIMILARITY & RIGHT TRIANGLE TRIGONOMETRY – 6.3

6.3

READY, SET, GO! Name Period Date

READY

Topic: Solving proportions in multiple ways

Solve each proportion. Show your work and check your solution.

1. scale factor ·5 ·5

$\frac{3}{4} = \frac{x}{20}$ 20. 15

2.

$\frac{x}{7} = \frac{18}{21}$

3.

$\frac{3}{6} = \frac{8}{x}$

4. cross product

$\frac{9}{c} = \frac{6}{10}$ 10·9 = 6·c

90 = 6c

c = 15

5.

$\frac{3}{4} = \frac{b+3}{20}$

6.

$\frac{7}{12} = \frac{a}{24}$

7.

$\frac{a}{2} = \frac{13}{20}$

8.

$\frac{3}{b+2} = \frac{6}{5}$ 5·(b+2)

15 = 6b + 12

−12 −12

3 = 6b

6 6

½ = b

9.

$\frac{\sqrt{3}}{2} = \frac{\sqrt{12}}{c}$

SET

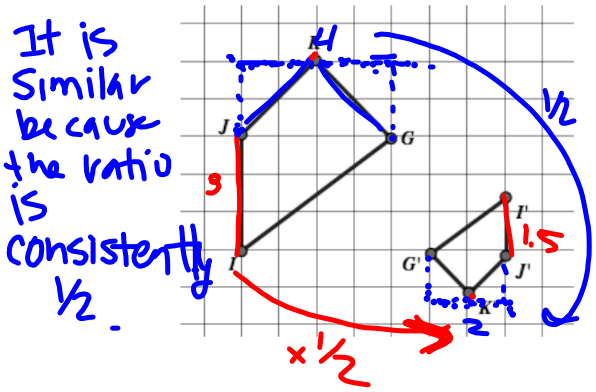
Topic: Proving Shapes are similar

Provide an argument to prove each conjecture, or provide a counterexample to disprove it.

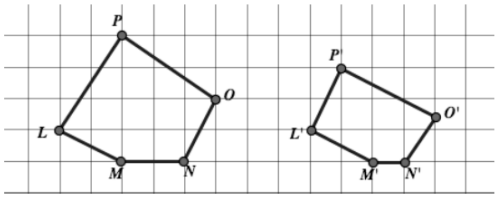
10. All right triangles are similar

11. All regular polygons are similar to other regular polygons with the same number of sides.

12. The polygons on the grid below are similar.

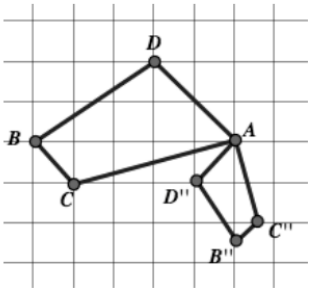


13. The polygons on the grid below are similar.

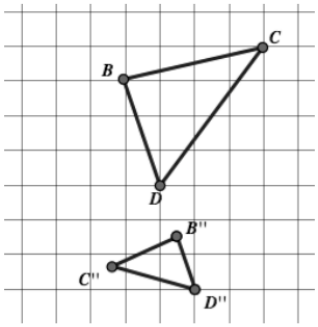


A sequence of transformations occurred to create the two similar polygons. Provide a specific set of steps that can be used to create the image from the pre-image.

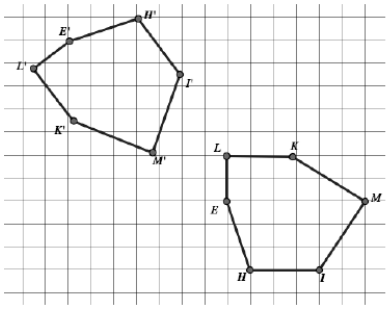
14.



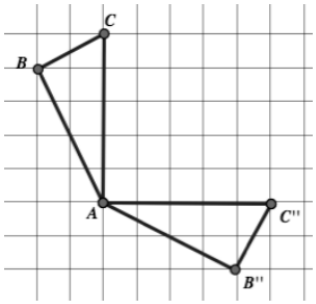
15.



16.



17.

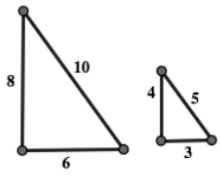


GO

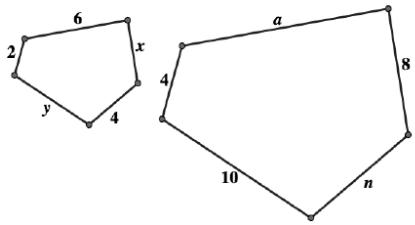
Topic: Ratios in similar polygons

For each pair of similar polygons give three ratios that would be equivalent.

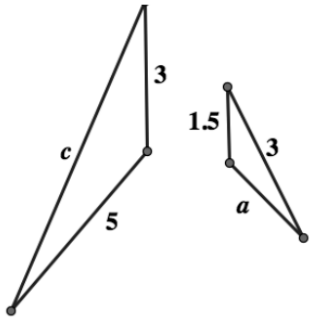
18.



19.



20.



21.