



Geometry: Similarity & Transformations

Name: _____

Grade: 7 _____

Date: _____

*Work with angles, triangles, circles, similarity, transformations, and scale drawings.
Show reasoning and diagrams.*

Part 1 · Angles & Triangles ANGLES

(1. Sum of angles in triangle?

(2. Right angle measure?

(3. Triangle with all sides equal?

(4. Triangle with one right angle?

(5. Triangle with two equal sides?

(6. Angle greater than 90° ?

Part 2 · Circles & Area CIRCLES

(7. Formula for area of circle?

8. Radius 7, area = ? (use $\pi=22/7$)

9. Diameter 10, radius = ?

10. Circumference formula?

11. Area of semicircle radius 6?

12. If area = 50π , radius = ?

Part 3 · Similarity & Scale SIMILAR

13. Two shapes same shape, different size?

14. Scale factor 3, original side 5. New side?

15. Triangle sides 4,6,8 scaled by 2?

16. Rectangle 8×5 scaled by 0.5?

17. Area of square side 6 scaled by 3?

18. Perimeter of triangle 3,4,5 scaled by 4?

Part 4 · Transformations TRANSFORM

19. Flip over axis?

20. Turn shape around point?

21. Slide shape?

22. Scale drawing by factor?

23. Reflection of (3,4) over y-axis?

24. Rotation of (2,5) 180° about origin?

Part 5 · Error Analysis

ERROR

25. Error: Area of circle πr^2 for $r=7$ is 49π . Correct & mistake?

26. Error: Triangle sides 4,6,8 scaled by 2 is 8,12,14. Correct & why?

27. Error: Reflection of (3,4) over y-axis is (3,-4). Correct & why?

Part 6 · Challenge & Reflection

CHALLENGE

28. Rectangle 10×7 scaled by 0.3. New area?

29. Circle area 100π . Radius?

(30. Triangle sides 5,12,13 scaled by 0.5?

(31. Reflection: Most helpful strategy? _____

Answer Key

1. 180°
2. 90°
3. Equilateral
4. Right
5. Isosceles
6. Obtuse
7. πr^2
8. 154
9. 5
10. $2\pi r$
11. 18π
12. 5
13. Similar
14. 15
15. 8,12,16
16. 4,2.5
17. 324
18. 48
19. Reflection
20. Rotation
21. Translation
22. Scale
23. (-3,4)
24. (-2,-5)
25. 154 / squared not multiplied
26. 8,12,16 / multiplied not added
27. (-3,4) / sign error
28. 12.6
29. 10
30. 2.5,6,6.5
31. Varies

Accept equivalent forms. Reflection varies.