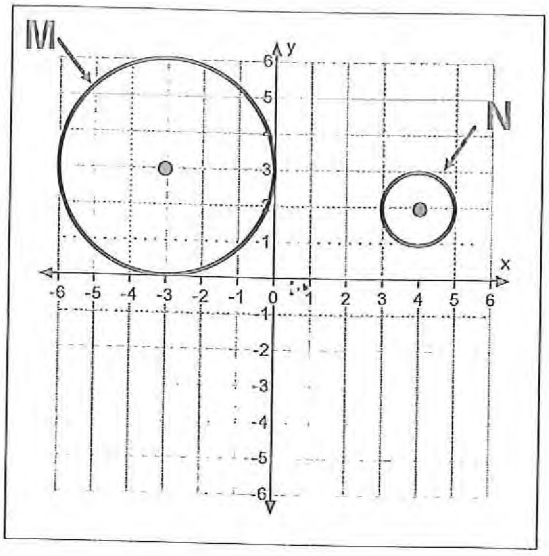
Unit 3 Quiz 1

Name: _____

#8

1. Fill in the blank: Two figures are similar if there is a sequence of _____ that maps one figure onto the other.

2. Prove that Circle M is similar to Circle N. Explain. (Circle M is the original circle.)



3. Are all circles similar? Explain.

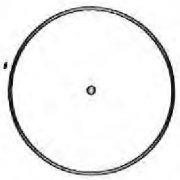
4. Find the area of a circle whose diameter is 17 centimeters. Show your work. Round to the nearest hundredth.

5. Find the circumference of a circle whose radius is 23 feet. Show your work. Round to the nearest hundredth.

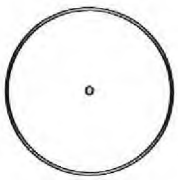
6. Find the radius of a circle whose circumference is 21.36 inches. Show your work. Round to the nearest hundredth.

7. Find the diameter of a circle whose area is 461.48 square meters. Show your work. Round to the nearest hundredth.

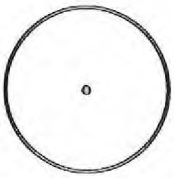
8. Draw a central angle.



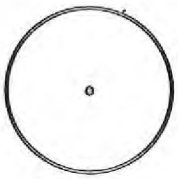
9. Draw a chord.



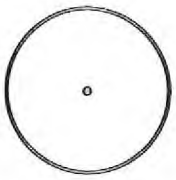
10. Draw a sector.



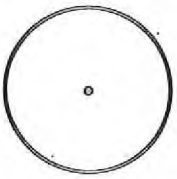
11. Draw a minor arc.



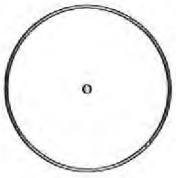
12. Draw a tangent.



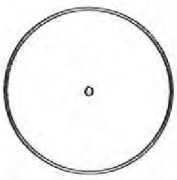
13. Draw an inscribed angle.



14. Draw a radius.



15. Draw a secant.



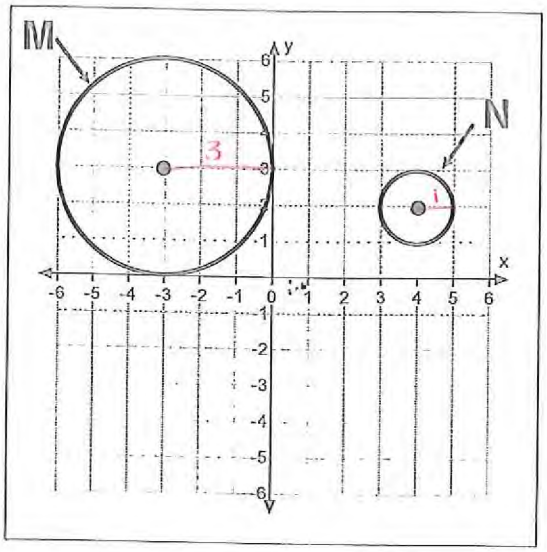
Unit 3 Quiz 1

Name: Key

#8

1pt 1. Fill in the blank: Two figures are similar if there is a sequence of Similarity transformations that maps one figure onto the other.

4pt 2. Prove that Circle M is similar to Circle N. Explain. (Circle M is the original circle.)



Circle M was dilated by a factor of $\frac{1}{3}$, translated right 7 units and down 1 unit to create circle N.

$\frac{26}{50}$

2pt → 3. Are all circles similar? Explain.

Yes. All circles are the same shape, so there will always be a sequence of similarity transformations that will map one circle onto another.

2pt 4. Find the area of a circle whose diameter is 17 centimeters. Show your work. Round to the nearest hundredth.

$d = 17$, $r = 8.5$

$A = \pi r^2$

1pt → $= \pi \cdot 8.5^2$

1pt → $= 226.98 \text{ cm}^2$

2pt 5. Find the circumference of a circle whose radius is 23 feet. Show your work. Round to the nearest hundredth.

$C = 2\pi r$

1pt → $= 2 \cdot \pi \cdot 23$

1pt → $= 144.51 \text{ ft}$

(11 pts)

3pt 6. Find the radius of a circle whose circumference is 21.36 inches. Show your work. Round to the nearest hundredth.

$C = 21.36$

1pt → $\frac{21.36}{2\pi} = \frac{2\pi r}{2\pi}$

2pt → $3.40 = r$

33.55 if they didn't put 2π in parenthesis

4pt 7. Find the diameter of a circle whose area is 461.48 square meters. Show your work. Round to the nearest hundredth.

$A = \pi r^2$

1pt → $\frac{461.48}{\pi} = \frac{\pi r^2}{\pi}$

1pt → $146.89 = r^2$

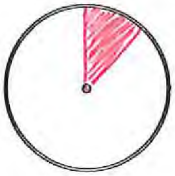
1pt → $12.12 = r$

1pt → $d = 24.24$

1pt 8. Draw a central angle.

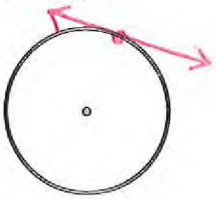
1pt 9. Draw a chord.

1pt 10. Draw a sector.



1pt 11. Draw a minor arc.

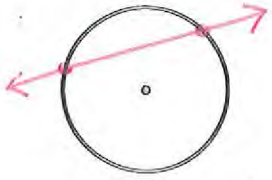
1pt 12. Draw a tangent.



1pt 13. Draw an inscribed angle.

1pt 14. Draw a radius.

1pt 15. Draw a secant.



(15 pts)