Final Exam Study Guide – Geometry Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

STUDY YOUR STUDY GUIDE!!

49

10

6

21

14

1.

Find the value of $x.$

2.



What is the arc length of $\hat{CD}$?

3. 

In the figure above, the diameters of the 5 dotted semicircles are equal and lie on the line segment *AB*. If the length of the line segment *AB* is 20, what is the length of the dotted curve from *A* to *B* ?

4.



5.

Based on the figure, which of the individual statements would provide enough information to conclude that line *r* is perpendicular to line *p* ?

Select **all** that apply.

1. $m∠2=90°$
2. $m∠6=90°$
3. $m∠3=m∠6$
4. $m∠1+m∠2=90°$

6.



7.

$$V=\frac{1}{3}∙h∙area of base$$

8.

What is the scale factor that will carry $∆ABC$ onto $∆DEF$?

9. Phoebe stands on level ground, 50m away from the foot of a building known to be 174.6m high. What will the angle of elevation be to the top of the building?



10.

$$V=πr^{2}h$$

11.

12. The equation $x^{2}+y^{2}+12x-26y=c$ describes a circle.

Determine the center of the circle.

13.



14.

Find the value of $x.$

15. The equation $x^{2}-16x+y^{2}=17$ defines a circle in the $xy-$coordinate plane.

**Circle the correct answer for both boxes:**



$$17$$

$$25$$

$$33$$

$$81$$

$$x-16$$

$$x-32$$

$$x-8$$

$$x+8$$



16.

**Circle the answers in the boxes to complete the sentence:**





17.



$∆ABC\~∆DEF$. What is the scale factor for this similarity if $∆ABC$ is being mapped onto $∆DEF$?

18.



19.



20. Find the midpoint of the segment containing the end points $X\left(-15, 8\right)$ and $Y(9, 20)$.