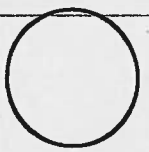
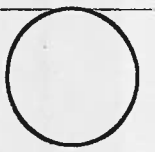
Grade 7 Formula Sheet

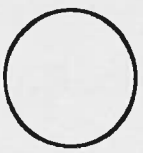
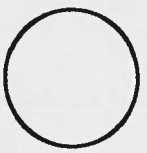
Name: _____ Hour: _____

You may use the following formulas to solve problems on this test.

Formulas	Variables
$A=\pi r^2$	A = area r = radius
$C=\pi d$	C = circumference d = diameter

The above formulas are for circles. To find the area of a circle we need to know the _____ of the circle. To find the circumference of a circle we need to know the _____.

Using a color pencil, draw the diameter of this circle:  and the radius of this circle: 

Draw the circumference of this circle:  and the area of this circle: 

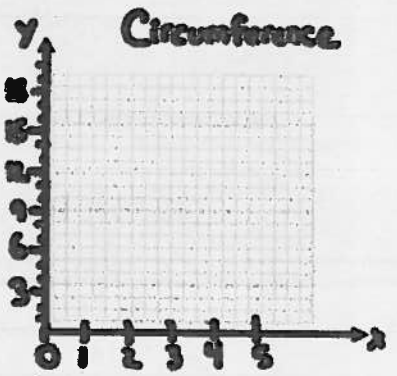
As the diameter of the circle increases I think the circumference will _____.

As the radius of the circle increases I think the area will _____.

Find the circumference of a circle with the given diameter to complete the table.

Diameter (d)	0	1	2	3	4	5
Circumference (C)						

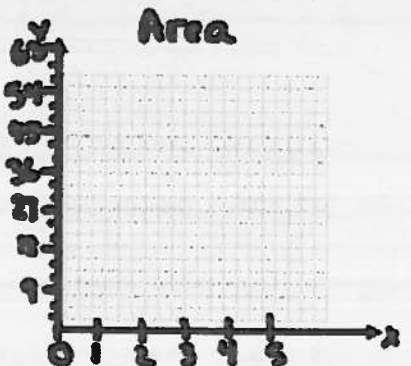
Label the axis and graph the information from the table onto the grid.



Find the area of a circle with the given diameter to complete the table.

Radius (r)	0	1	2	3	4	5
Area (A)						

Label the axis and graph the information from the table onto the grid.



Which relationship (Circumference or Area) shows a proportional relationship? Provide three reasons that support your decision. (Hint – use class notes from the last two days)

_____ because:

1.

2.

3.

Circle	Circumference	Diameter	$\frac{Circumference}{Diameter}$
A	37.68	12	
B	31.4	10	
C	25.12	8	
D	56.52	18	
E	47.1	15	

All circles are proportional. The ratio of $\frac{circumference}{diameter}$ is always equal to pi ($\pi - approximated\ as\ 3.14$). Use this relationship to determine if the following circles are true circles.

Circumference	Diameter	$\frac{Circumference}{Diameter}$	Real circle or not?
53.38	17		
65.94	19		
103.62	35		
44.588	14.2		
1.57	0.5		

Circle the relationship if it is proportional.

A car drives 24 miles for every gallon of gas put in it. Mr. Donohoe is given $100, then earns $10 per hour.

Mr. Golden spends $15 to get to the casino then loses $20 per hour.

Mrs. Konsor buys 3 candy bars for each student. $Y = 5x + 30$ $y = -2x$ $C = \pi d$ $A = \pi r^2$