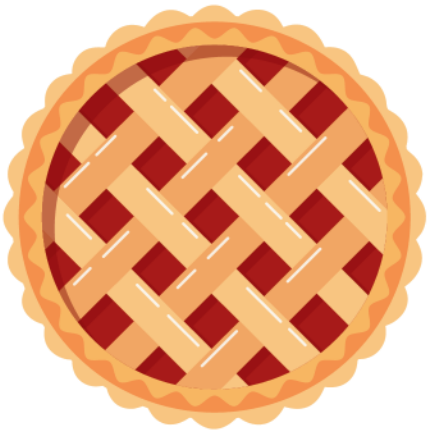
PI DAY PROBLEMS



area = πr^2
circumference = $2\pi r$

This pie has a 9" diameter

radius_____

diameter _____

circumference _____

area _____

If you bake a pie with a radius of 10", what is its circumference?

What is its area?

If you cut the pie into eight equal pieces what fraction is each piece?

If you eat two of the pieces what fraction is left? Can you think of two ways (equivalent fractions) to name this fraction?

You share two pieces with your brother. Now what fraction do you have? Name this fraction two ways.

If you bake another 10" pie and you still have one half of this pie, how much pie will you have then?

If each member of your family wants two pieces of pie what fraction would that be?

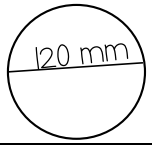
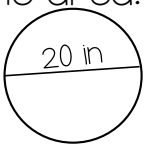
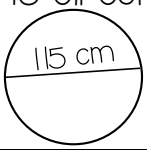
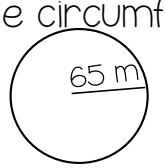
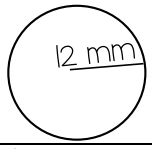
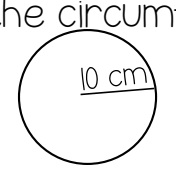
We Play MATH

Name:_____ Date:_____

Area & Circumference Riddle Sheet

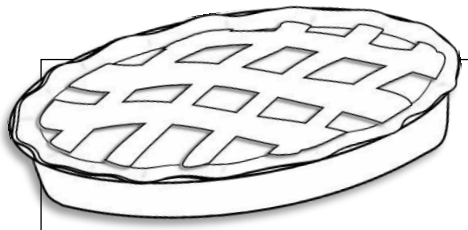
Why was Sir Cumference the roundest knight at King Arthur's table?

Complete each question. Use 3.14 for pi. Find the answer at the bottom of the page and then write the letter that corresponds to that correct answer on the line above it.

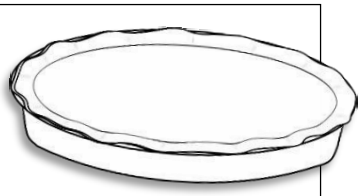
H Find the circumference: 	O Find the area of a circle with a radius of 30 mm.
O Find the area: 	T Find the circumference: 
E Find the area of a circle with a diameter of 12 feet.	A Find the area of a circle with a radius of 7 inches.
P A circle has a diameter of 95 mm. What is the distance around the circle?	M Find the circumference: 
E A circle measures 16 inches across. How much space does the circle fill?	T Find the circumference of a circle with a radius of 7.5 meters.
H Find the area: 	C Find the circumference: 
I Find the area of a circle with a diameter of 10 cm.	U The radius of a circle is 40 inches. Find the circumference.

Because

376.8	113.04		153.86	361.1	200.96		47.1	2,826	314		408.2	251.2	62.8	452.16		298.3	78.5



PIE LOGIC

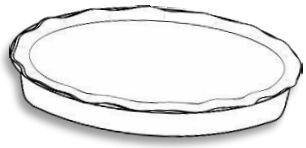


The phones at Betty's Bakery were ringing off the hook with people shopping for Betty's delicious pies! Five customers (Ryan, Sharon, Taylor, Vanessa, and Wyatt) placed orders for five different pies (apple, pumpkin, pecan, blueberry, and coconut cream). The customers' last names in no particular order are Welch, Peterson, Sailor, Fredricks, and Davis. They each ordered a different size pie, (7-inch, 8-inch, 9-inch, 10-inch, and 11-inch diameter) and each customer requested to pick up their pie at a different time (11 AM, 12:30 PM, 1 PM, 2:30 PM, and 4 PM).

Help Betty keep the orders straight by using the 10 clues below to match each customer with their last name, pie flavor, pie size, and pick-up time!

1. Taylor Welch did not purchase the coconut cream pie or apple pie. Her pie was smaller than the pie that was to be picked up at 1:00.
2. Wyatt planned to pick up his pie after Vanessa but before Mr. Davis.
3. The coconut cream pie was ordered with a 10-inch diameter.
4. The blueberry pie, which was to be picked up at 2:30, was smaller than the apple pie.
5. The pumpkin pie was neither the largest, nor smallest pie that was ordered. It was scheduled to be picked up at 11 AM.
6. Sharon wanted to pick up her pie at 4:00.
7. Mr. Davis did not order a pecan or pumpkin pie.
8. The customer with the last name of Peterson ordered the biggest pie.
9. Ms. Fredricks was scheduled to pick up her 10-inch pie last.
10. Ryan ordered his pie in an 8-inch diameter. He needed to pick his pie up before 2:00.

PIE LOGIC WORK GRID:



	Welch	Peterson	Sailor	Fredricks	Davis	Apple	Pumpkin	Pecan	Blueberry	Coconut Cream	7-inch	8-inch	9-inch	10-inch	11-inch	11:00 AM	12:30 PM	1:00 PM	2:30 PM	4:00 PM
Ryan																				
Sharon																				
Taylor																				
Vanessa																				
Wyatt																				
11:00 AM																				
12:30 PM																				
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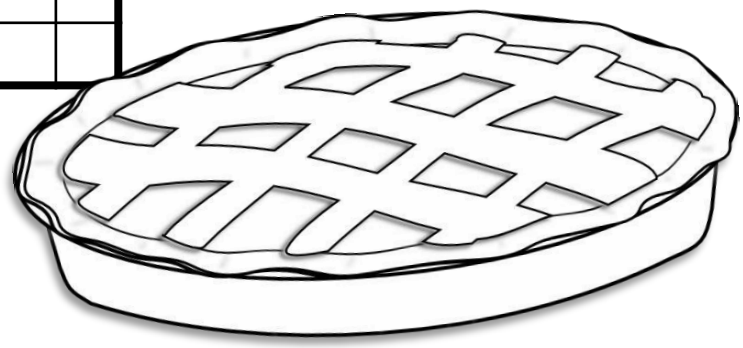
10-inch																				
11-inch																				
Apple																				
Pumpkin																				
Pecan																				
Blueberry																				
Coconut Cream																				



PIE LOGIC SOLUTION:

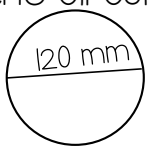
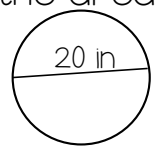
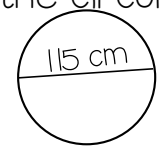
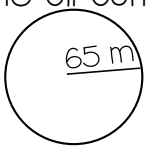
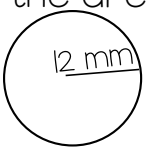
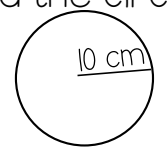
First Name	Last Name	Pie Flavor	Size	Time

Answer Key

Area & Circumference Riddle Sheet

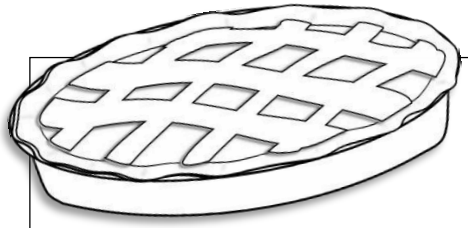
Why was Sir Cumference the roundest knight at King Arthur's table?

Complete each question. Use 3.14 for pi. Find the answer at the bottom of the page and then write the letter that corresponds to that correct answer on the line above it.

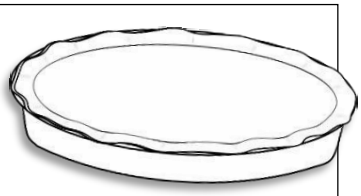
H	Find the circumference: 376.8 mm 	O	Find the area of a circle with a radius of 30 mm. 2,826 mm^2
O	Find the area: 314 in^2 	T	Find the circumference: 361.1 cm 
E	Find the area of a circle with a diameter of 12 feet. 113.04 ft^2	A	Find the area of a circle with a radius of 7 inches. 153.86 in^2
P	A circle has a diameter of 95 mm. What is the distance around the circle? 298.3 mm	M	Find the circumference: 408.2 m 
E	A circle measures 16 inches across. How much space does the circle fill? 200.96 in^2	T	Find the circumference of a circle with a radius of 7.5 meters. 47.1 m
H	Find the area: 452.16 mm^2 	C	Find the circumference: 62.8 cm 
I	Find the area of a circle with a diameter of 10 cm. 78.5 cm^2	U	The radius of a circle is 40 inches. Find the circumference. 251.2 in

Because

H	E	A	T	E	T	O	O	M	U	C	H	P	I
376.8	113.04	153.86	361.1	200.96	47.1	2,826	314	408.2	251.2	62.8	452.16	298.3	78.5



PIE LOGIC



ANSWER KEY

First Name	Last Name	Pie Flavor	Size	Time
Ryan	Davis	Apple	8-inch	1:00
Sharon	Fredricks	Coconut Cream	10-inch	4:00
Taylor	Welch	Blueberry	7-inch	2:30
Vanessa	Sailor	Pumpkin	9-inch	11:00
Wyatt	Peterson	Pecan	11-inch	12:30

*** *This puzzle may be challenging for some students. Feel free to use the answer key to give them additional clues if they get stuck!* ***

Thank you for downloading this resource from Math in the Middle. I hope you and your students enjoy it!

PI DAY PROBLEMS

area = πr^2
circumference = $2\pi r$

This pie has a 9" diameter

radius 4.5 in

diameter 9 in.

circumference 9π in.

area 20.25π in.

If you bake a pie with a radius of 10", what is its circumference?

20π in.

What is its area?

100π in.

If you cut the pie into eight equal pieces what fraction is each piece? $\frac{1}{8}$

If you eat two of the pieces what fraction is left? Can you think of two ways (equivalent fractions) to name this fraction? $\frac{6}{8}, \frac{3}{4}$

You share two pieces with your brother. Now what fraction do you have? Name this fraction two ways. $\frac{4}{8}, \frac{1}{2}$

If you bake another 10" pie and you still have one half of this pie, how much pie will you have then (fraction)? $1\frac{1}{2}$

If each member of your family wants two pieces of pie what fraction would that be?

answers will vary

We Play MATH