

CONCEPTS OF ANGLES

4th Grade

NAME: _____ DATE: _____

1

2

3

4

5

NAME: _____ DATE: _____

ANGLES AS FRACTIONS of a circle

Directions: When a circle is divided into equal pieces, each piece has the same angle. If you take 360° and divide it by the number of pieces, you will find the measurement of each angle. Use this strategy to find the measurement of each angle.

1

$360 \div 2 = 180$

3

$360 \div 3 = 120$

5

$360 \div 5 = 72$

angles

A circle is equal to 360 degrees. An angle is a fraction of a circle. An angle measures the arc between two rays that share a common endpoint at the center of the circle.

Each individual turn forms an arc between the two rays. So, if an angle turns through 180, one-degree angles, the measurement of that angle is 180 degrees.

<p>$\frac{1}{360} = 1^\circ$</p>	<p>$\frac{180}{360} = \frac{1}{2} = 180^\circ$</p>	<p>$\frac{90}{360} = \frac{1}{4} = 90^\circ$</p>	<p>$\frac{45}{360} = \frac{1}{8} = 45^\circ$</p>
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NAME: _____ DATE: _____

ANGLES AS FRACTIONS of a circle

2

Answer: $\frac{123}{360}$

Answer: $\frac{154}{360}$

Printable & Google Slides



CONCEPTS OF ANGLES

4th grade

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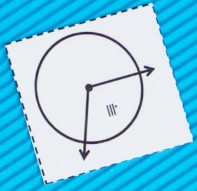
* You MUST have a Google account in order to access this resource. [Click HERE](#) if you need help setting up a Google account.

$$\frac{360}{123}$$

$$\frac{154}{360}$$

$$\frac{45}{360}$$

$$\frac{111}{360}$$



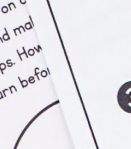
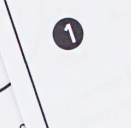
CONCEPTS OF ANGLES

Directions: Solve the word problem for each problem.

1 Tiana is slicing a fresh, hot pie into 4 equal slices. In how many degrees is each slice of pie?





2 Samara is riding on a merry-go-round and goes around 3 times. How many degrees does she turn before she stops?




ANGLES AS FRACTIONS

Directions: When a circle is divided into equal parts, the angle of each part is a fraction of 360 degrees. Use this strategy to find the measurement of each angle.

1  $360 \div \frac{360}{2} = 180$

3  $360 \div \frac{360}{10} = 36$

5  $360 \div \frac{360}{9} = 40$

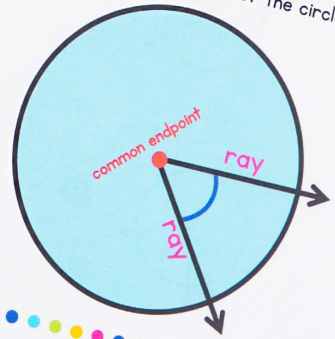
5  $360 \div \frac{360}{8} = 45$

ANGLES AS FRACTIONS


- 12
- 4
- 5
- 7

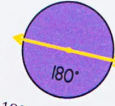
ANGLES AS FRACTIONS

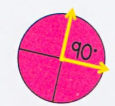
A circle is equal to 360 degrees. An angle is a fraction of a circle. An angle measures the arc between two rays that share a common endpoint at the center of the circle.



Each individual turn forms an arc between the two rays. So, if an angle turns through 180, one-degree angles, the measurement of that angle is 180 degrees.

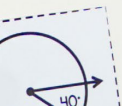
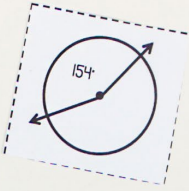
 $\frac{1}{360} = 1^\circ$

 $\frac{180}{360} = \frac{1}{2} = 180^\circ$

 $\frac{90}{360} = \frac{1}{4} = 90^\circ$

 $\frac{45}{360} = \frac{1}{8} = 45^\circ$

$$\frac{180}{360}$$



NAME: _____ DATE: _____

CONCEPTS OF ANGLES

word problems

Directions: Solve the word problems below. Use the circle to sketch the angles described in each problem.

- 1 Tiana is slicing a fresh, homemade apple pie to share with her three friends. She wants the pie to be split fairly, so she cuts the pie into 4 equal slices. In degrees, what would be the angle of one slice of pie?



NAME: _____ DATE: _____

ANGLES AS FRACTIONS

of a circle

Directions: Write the fractions as angles, in degrees.

- 1 $\frac{125}{360} = 125^\circ$ 2 $\frac{90}{360} = 90^\circ$
 3 $\frac{45}{360} = 45^\circ$ 4 $\frac{17}{360} = 17^\circ$
 5 $\frac{32}{360}$

Directions: W

NAME: _____ DATE: _____

ANGELO'S ANGLES

Directions: Angelo opened a new pizzeria, and he is hosting a pizza-eating competition. To help Angelo determine the winner, find the degrees of pizza eaten by each competitor. **Circle the winner.**

Answer: 90°

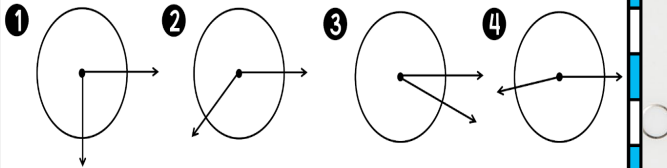
the carnival. The
before it breaks
angles did the merry-



ANGLES AS FRACTIONS

of a circle

Directions: Use the fractions from the answers below and match them to the correct angle.



Answer: _____ Answer: _____ Answer: _____ Answer: _____

Answer Bank			
23/360	135/360	90/360	170/360

ANGLES AS FRACTIONS

Directions: When a circle is divided into equal pieces, take 360° and divide it by the number of pieces, you get the angle. Use this strategy to find the measurement of the angle.

1 $360 \div 2 = 180$

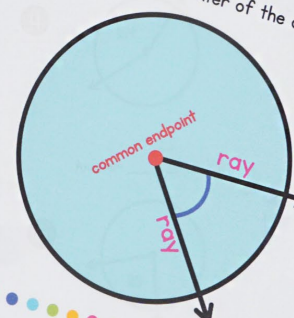
3 $360 \div 10 = 36$

5 $360 \div 9 = 40$

6 $360 \div 6 = 60$

angles

A circle is equal to 360 degrees. An angle is a figure formed by two rays that share a common endpoint at the center of the circle.



360° $\frac{1}{360} = 1^\circ$ 180° $\frac{180}{360} = \frac{1}{2} = 180^\circ$ 90° $\frac{90}{360} = \frac{1}{4} = 90^\circ$

$\frac{85}{360}$

$\frac{170}{360}$

$\frac{40}{360}$

$\frac{180}{360}$

CONCEPTS OF ANGLES

DATE: _____

$$\frac{180}{360}$$

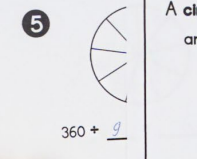
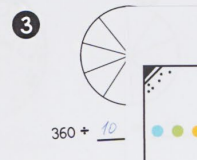
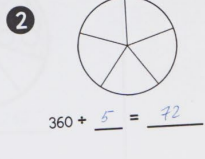
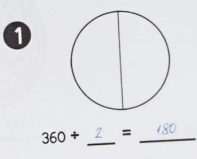


ANGELO'S ANGLES

Directions: Angelo opened a new pizzeria, and he is hosting a pizza-eating

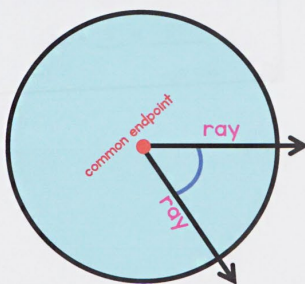
ANGLES AS FRACTIONS of a circle

Directions: When a circle is divided into equal pieces, each piece has the same angle. If you take 360° and divide it by the number of pieces, you will find the measurement of each angle. Use this strategy to find the measurement of each angle on the circles below.

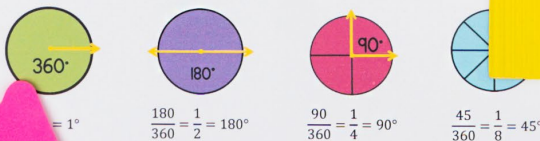


angles

A circle is equal to 360 degrees. An angle is a fraction of a circle. An angle measures the arc between two rays that share a common endpoint at the center of the circle.



Each individual turn forms an arc between the two rays. So, if an angle is formed by two rays that share a common endpoint at the center of a circle and pass through 180, one-degree angles, the measurement of that angle is 180 degrees.



ANGLES A

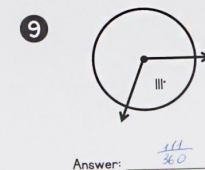
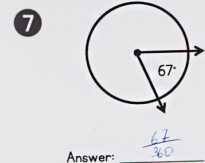
Directions: Write the fractions as an

1 $\frac{125}{360} = \frac{125^\circ}{360}$

3 $\frac{45}{360} = \frac{45^\circ}{360}$

5 $\frac{32}{360} = \frac{32^\circ}{360}$

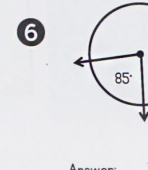
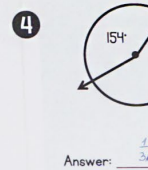
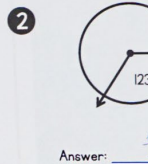
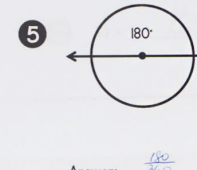
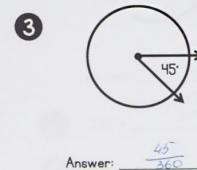
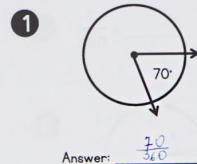
Directions: Write the angles as a fra



NAME: _____ DATE: _____

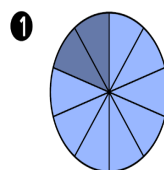
ANGLES AS FRACTIONS of a circle

Directions: Write the angles as a fraction.

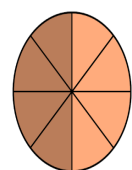


ANGLES AS FRACTIONS of a circle

Directions: Find the angle, in degrees, of the shaded portion of each circle.



Answer: _____



Answer: _____



Answer: _____

NAME: _____

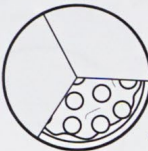
DATE: _____

ANGELO'S ANGLES



Directions: Angelo opened a new pizzeria, and he is hosting a pizza-eating competition! To help Angelo determine the winner, find the degrees of pizza eaten by each competitor. **Circle the winner.**

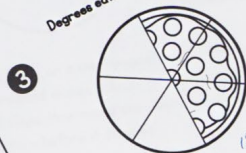
1



Degree eaten: 240°

2

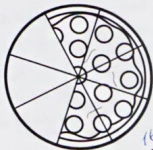
So me. dowi go-ro



Degree eaten: 180°



2



Degree eaten: 160°

4



Degree eaten: 252°

6



Degree eaten: 240°

NAME: _____

DATE: _____

ANGLES AS FRACTIONS of a circle

Directions: Write the fractions as angles, in degrees.

1 $\frac{125}{360} = 125^\circ$

2 $\frac{90}{360} = 90^\circ$

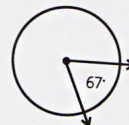
3 $\frac{45}{360} = 45^\circ$

4

5 $\frac{32}{360} = 32^\circ$

Directions: Write the angles as a fraction.

7



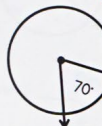
Answer: $\frac{67}{360}$

9

ANG

Directions: Write the a

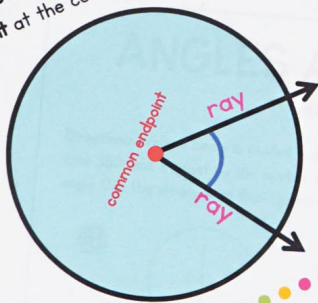
1



Answer: $\frac{70}{360}$

angles

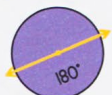
is equal to 360 degrees. An angle is a fraction of a circle. An angle measures the arc between two rays that share a common endpoint at the center of the circle.



Each individual turn forms an arc between the two rays. Since through 180, one-degree angles, the measurement of the



$\frac{1}{360} = 1^\circ$



$\frac{180}{360} = \frac{1}{2} = 180^\circ$



$\frac{90}{360} = \frac{1}{4} = 90^\circ$



$360 \div 6 = 60$

CONCEPTS OF ANGLES

Directions: Write the angles as a fraction of a circle.

5 $\frac{180}{360} = \underline{\hspace{2cm}}$

7 $\frac{66}{360} = \underline{\hspace{2cm}}$

6 $\frac{19}{360} = \underline{\hspace{2cm}}$

8 $\frac{1}{360} = \underline{\hspace{2cm}}$

$\frac{170}{360}$




DATE: _____

PTS OF ANGLES

word problems

below. Use the circle to sketch the angles described

made apple pie to share with her



DATE: _____

ANGLES AS FRACTIONS

of a circle

NAME: _____ DATE: _____

ANGLES AS FRACTIONS

of a circle

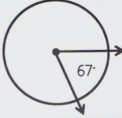
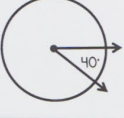
Directions: Write the fractions as angles, in degrees.

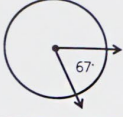
1 $\frac{125}{360} = 125^\circ$ 2 $\frac{90}{360} = 90^\circ$

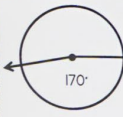
3 $\frac{45}{360} = 45^\circ$ 4 $\frac{17}{360} = 17^\circ$

5 $\frac{32}{360} = 32^\circ$ 6 $\frac{5}{360} = 5^\circ$

Directions: Write the angles as a fraction.

7  8 




$$\frac{67}{360}$$



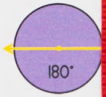
$$\frac{170}{360}$$

angles

A circle is equal to 360 degrees. An angle is a fraction of a circle. An angle measures the arc between two endpoints at the center of the circle.



Each individual turn forms an arc through 180, one-degree angles, the

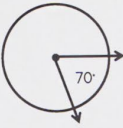
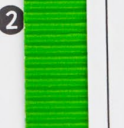
$\frac{1}{360} = 1^\circ$ $\frac{180}{360} = \frac{1}{2} = 180^\circ$

NAME: _____

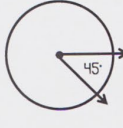

ANGLES AS FRACTIONS

of a circle

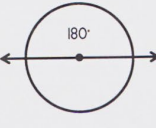
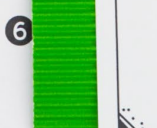
Directions: Write the angles as a fraction.

1  2 

Answer: $\frac{70}{360}$

3  4 

Answer: $\frac{45}{360}$



5  6 

Answer: $\frac{180}{360}$

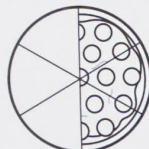
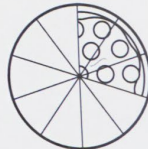
NAME: _____ DATE: _____

ANGELO'S ANGLES

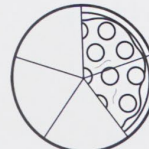
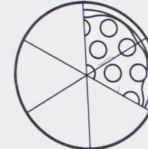
Directions: Angelo opened a new pizzeria, and he is hosting a pizza-eating competition! To help Angelo determine the winner, find the degrees of pizza eaten by each competitor. Circle the winner.

1  2 

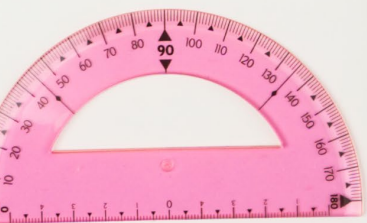
Degrees eaten: 240° Degrees eaten: 160°

3  4 

Degrees eaten: 180° Degrees eaten: 252°

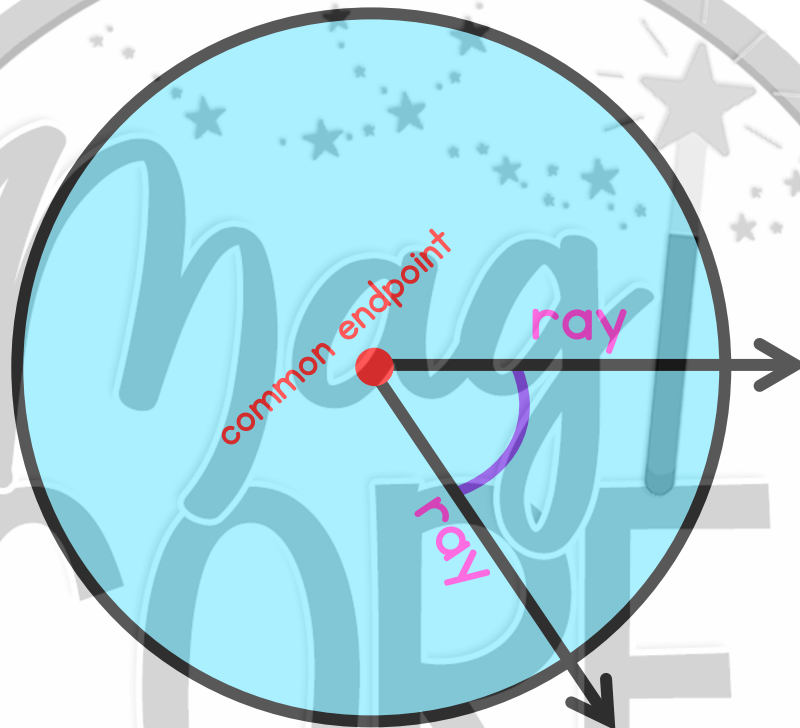
5  6 

Degrees eaten: 216° Degrees eaten: 240°

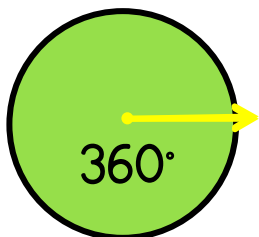


angles

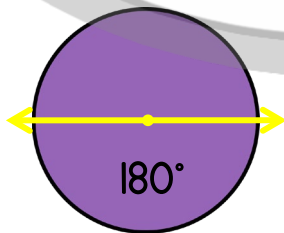
A **circle** is equal to **360 degrees**. An **angle** is a **fraction** of a circle. An angle measures the **arc** between two **rays** that share a **common endpoint** at the center of the circle.



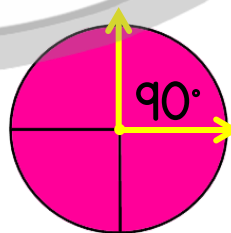
Each individual turn forms an arc between the two rays. So, if an angle turns through 180, one-degree angles, the measurement of that angle is 180 degrees.



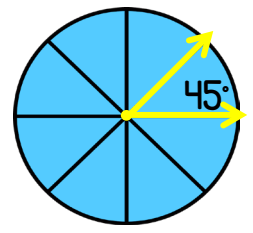
$$\frac{1}{360} = 1^\circ$$



$$\frac{180}{360} = \frac{1}{2} = 180^\circ$$



$$\frac{90}{360} = \frac{1}{4} = 90^\circ$$

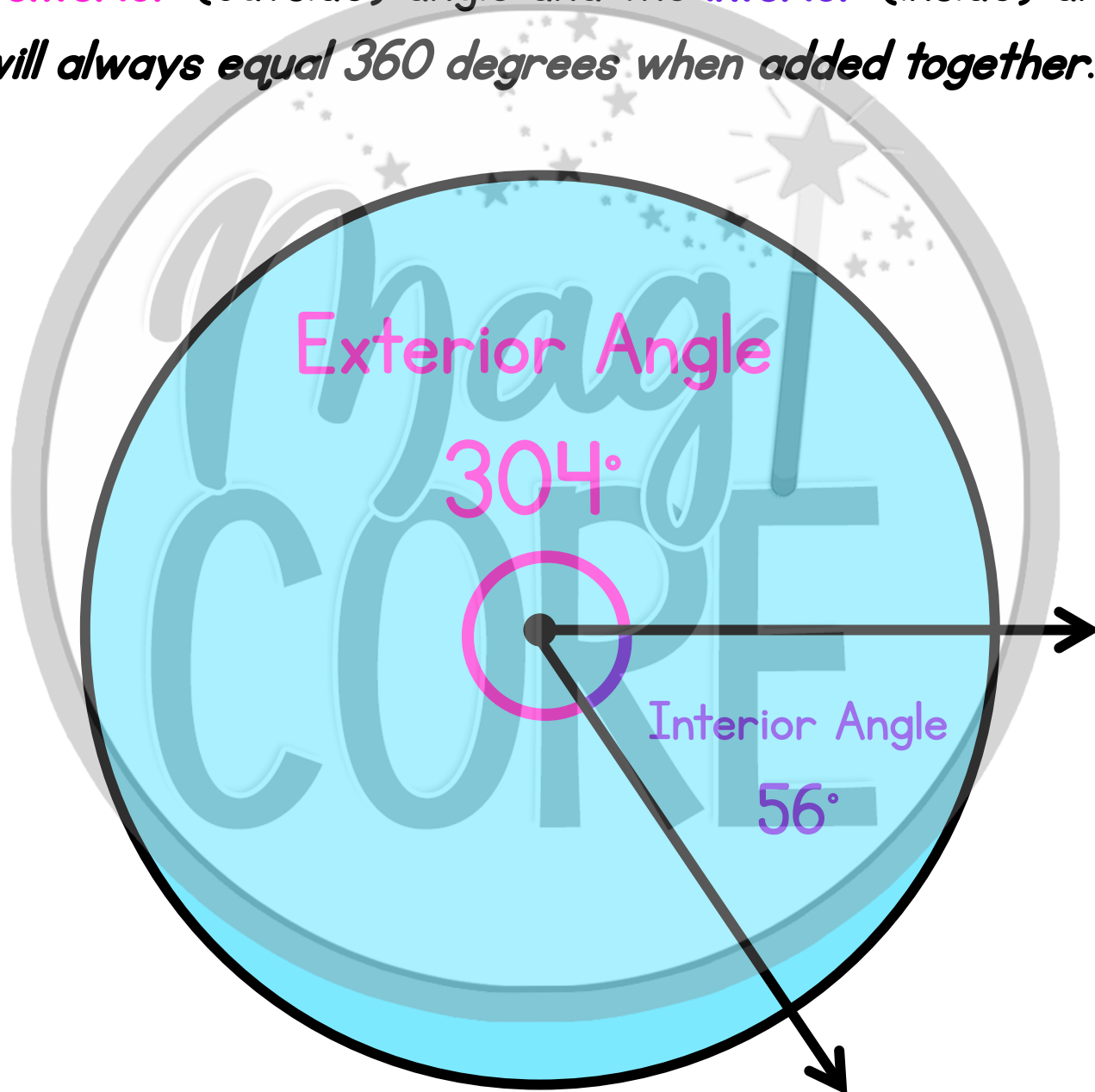


$$\frac{45}{360} = \frac{1}{8} = 45^\circ$$

INTERIOR & EXTERIOR

angles

The **exterior** (outside) angle and the **interior** (inside) angle will always equal 360 degrees when added together.



$$304^\circ + 56^\circ = 360^\circ$$

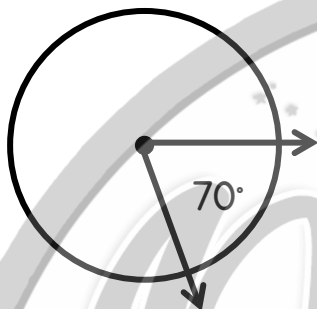
NAME: _____ DATE: _____

ANGLES AS FRACTIONS

of a circle

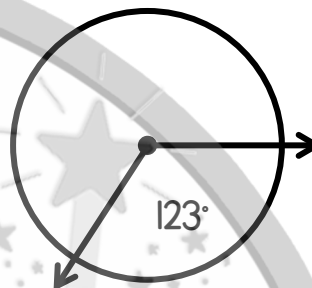
Directions: Write the angles as a fraction.

1



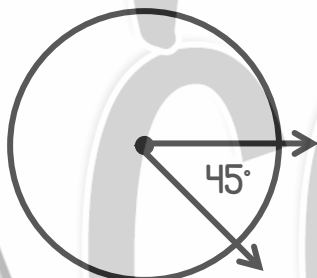
Answer: _____

2



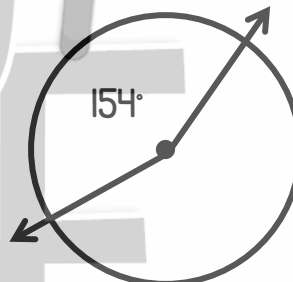
Answer: _____

3



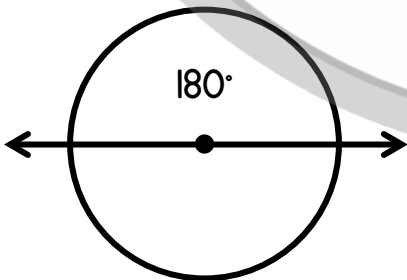
Answer: _____

4



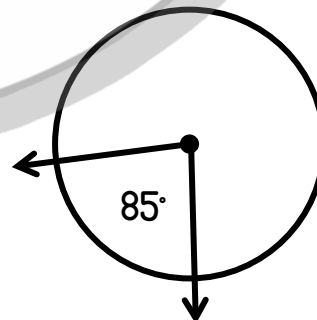
Answer: _____

5



Answer: _____

6

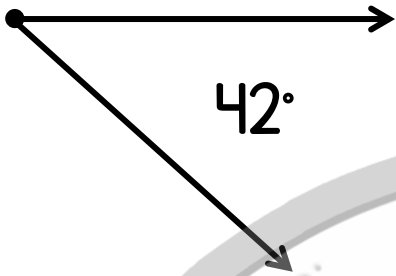


Answer: _____

NAME: _____

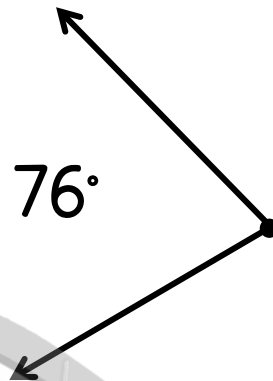
DATE: _____

7



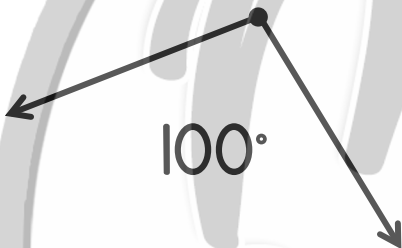
Answer: _____

8



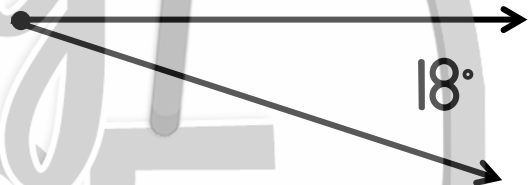
Answer: _____

9



Answer: _____

10



Answer: _____

Directions: Write the angles as a fraction.

11

$76^\circ =$ _____

12

$90^\circ =$ _____

13

$270^\circ =$ _____

14

$124^\circ =$ _____

15

$15^\circ =$ _____

16

$85^\circ =$ _____

NAME: _____ DATE: _____

ANGLES AS FRACTIONS

of a circle

Directions: Write the fractions as angles, in degrees.

1 $\frac{125}{360} =$ _____

2 $\frac{90}{360} =$ _____

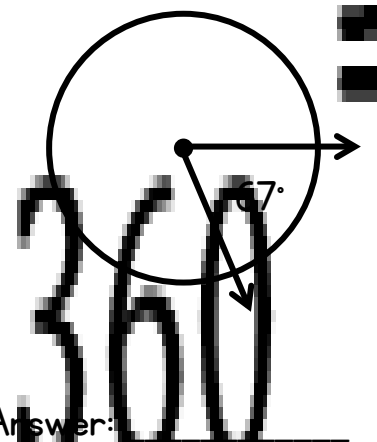
3 $\frac{45}{360} =$ _____

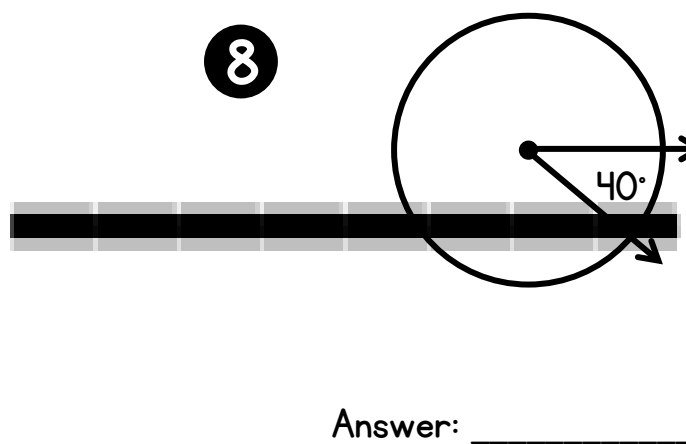
4 $\frac{17}{360} =$ _____

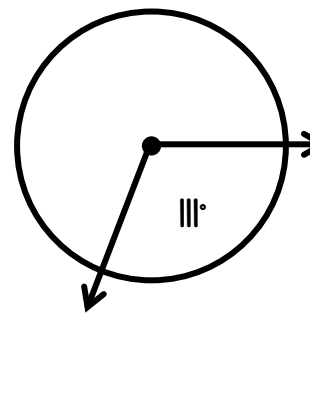
5 $\frac{32}{360} =$ _____

6 $\frac{5}{360} =$ _____

Direction: Write the angles as a fraction.

7  Answer: _____

8  Answer: _____

9  Answer: _____

10 $270^\circ =$ _____

11 $180^\circ =$ _____

12 $33^\circ =$ _____

NAME: _____

DATE: _____

ANGLES AS FRACTIONS

of a circle

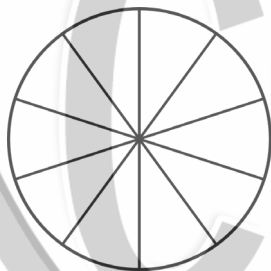
Directions: When a circle is divided into equal pieces, each piece has the same angle. If you take 360° and divide it by the number of pieces, you will find the measurement of each angle. Use this strategy to find the measurement of each angle on the circles below.

1

$$360 \div \underline{\quad} = \underline{\quad}$$

2

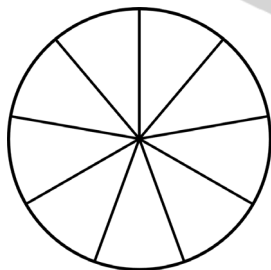
$$360 \div \underline{\quad} = \underline{\quad}$$

3

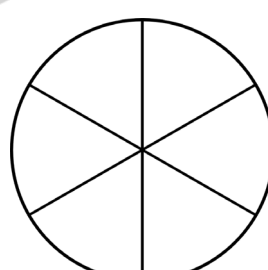
$$360 \div \underline{\quad} = \underline{\quad}$$

4

$$360 \div \underline{\quad} = \underline{\quad}$$

5

$$360 \div \underline{\quad} = \underline{\quad}$$

6

$$360 \div \underline{\quad} = \underline{\quad}$$

NAME: _____

DATE: _____



ANGELO'S ANGLES

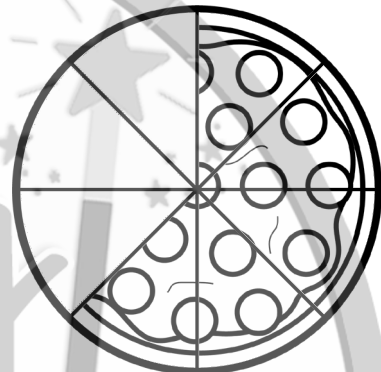
Directions: Angelo opened a new pizzeria, and he is hosting a pizza-eating competition! To help Angelo determine the winner, find the degrees of pizza eaten by each competitor. *Circle the winner.*

1



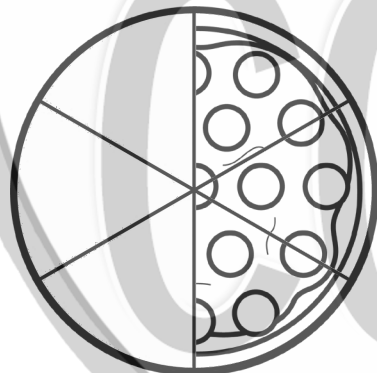
Degrees eaten: _____

2



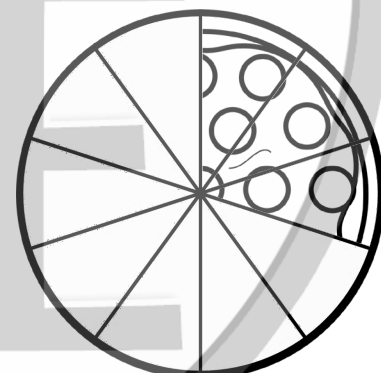
Degrees eaten: _____

3



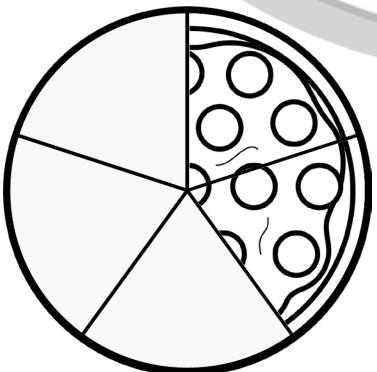
Degrees eaten: _____

4



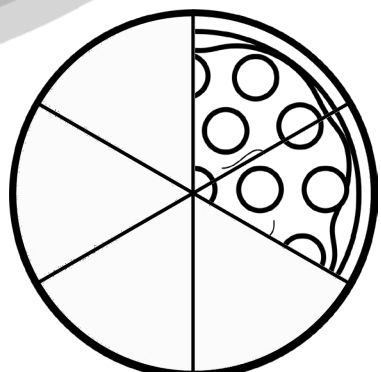
Degrees eaten: _____

5



Degrees eaten: _____

6



Degrees eaten: _____

NAME: _____

DATE: _____

CONCEPTS OF ANGLES

word problems

Directions: Solve the word problems below. Use the circle to sketch the angles described in each problem.

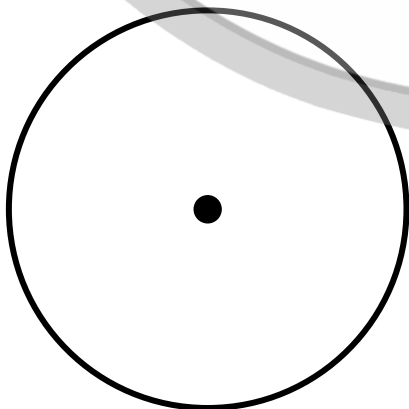
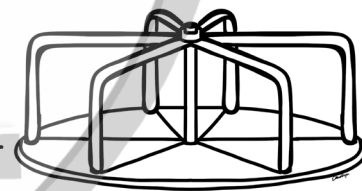


- 1** Tiana is slicing a fresh, homemade apple pie to share with her three friends. She wants the pie to be split fairly, so she cuts the pie into 4 equal slices. In degrees, what would be the angle of one slice of pie?



Answer: _____

- 2** Samara is riding on a merry-go-round at the carnival. The merry-go-round makes it halfway around before it breaks down and stops. How many one-degree angles did the merry-go-round turn before it stopped?

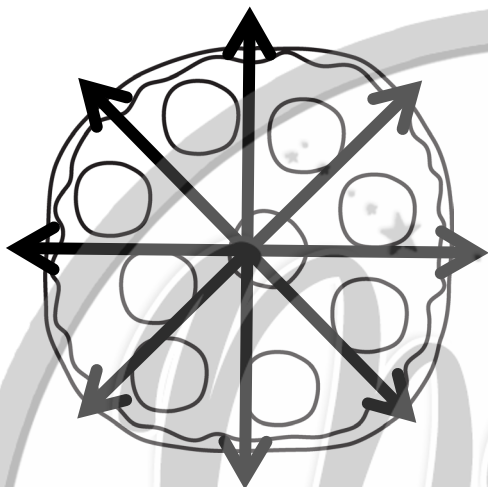


Answer: _____

NAME: _____

DATE: _____

- 3** Frankie ordered a large pizza which comes sliced into eight equal pieces. What fraction of a circle would one piece be? What would the angle of one piece be in degrees?



Fraction: _____

Angle: _____

- 4** Mrs. Johnson asks her students to answer how much of the circle below is shaded. Cami answers $\frac{60}{360}$, but her classmate, Ethan, says the answer should be 60° . Which student is correct and how do you know? Explain your choice below.



NAME: _____

DATE: _____

ANALOG ANGLES

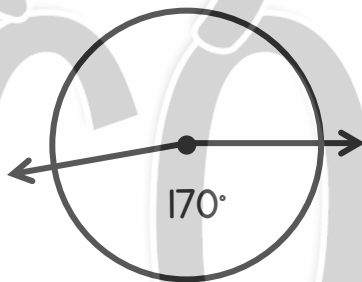
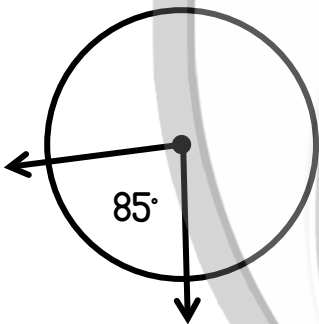
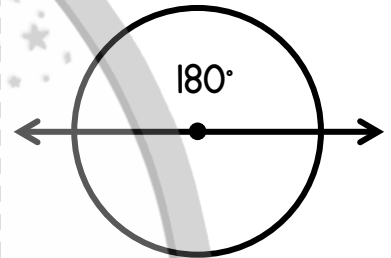
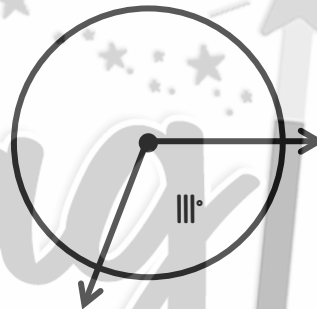
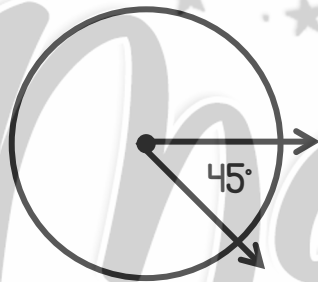
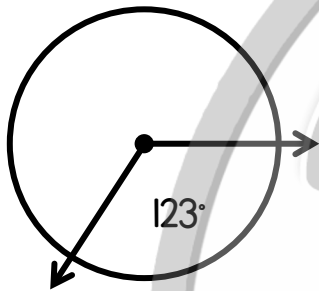
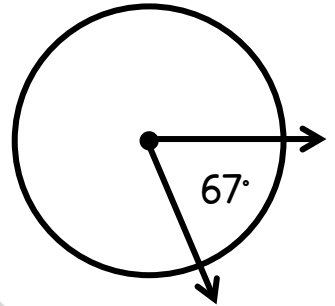
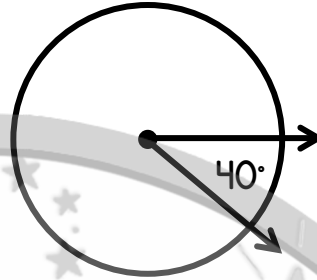
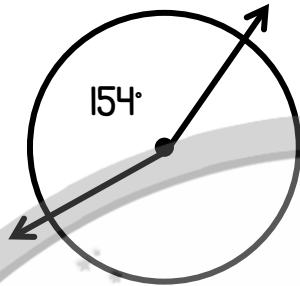
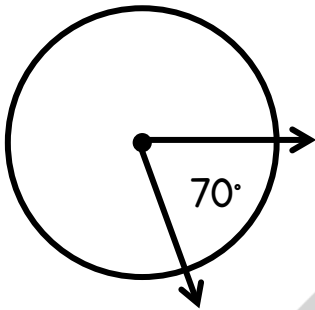
Directions: Cut out the clock face and clock hands. Use a brad fastener to attach the clock hands to the clock face.



ANGLES AS FRACTIONS

card matching game

© Julia Böcher



170

85

360

360

180

111

45

123

360

360

360

360

67

40

154

70

360

360

360

360

NAME: _____

DATE: _____

ANSWER RECORDING SHEET

card matching game

Question Number	Fraction	Angle
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

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