

Card Sort: Circle Problems

**Question 1**

How much fabric is needed  
for a round tablecloth?

Card Sort: Circle Problems

**Question 2**

How fast do you go when  
riding on a Ferris wheel?

Card Sort: Circle Problems

**Question 3**

How much green space is there  
inside a traffic roundabout?

Card Sort: Circle Problems

**Question 4**

How many square inches of  
cheese fit on a slice of pizza?

Card Sort: Circle Problems

**Question 5**

How many times must a horse go  
around a horse walker to walk 1 mile?

Card Sort: Circle Problems

**Question 6**

How many feet are traveled by a person  
riding once around a merry-go-round?

Card Sort: Circle Problems

**Question 7**

How much room is there to put  
glue on the back of a paper circle?

Card Sort: Circle Problems

**Question 8**

How far does a unicycle move when  
the wheel makes 5 full rotations?

Problems Related to  
Circumference

Problems Related to  
Area of a Circle

Question 1:	
How much fabric is needed for a round tablecloth?	
Diagram (with estimated measurements):	Your thinking:
Answer (both in terms of $\pi$ and as a decimal approximation):	

Question 2:  How fast do you go when riding on a Ferris wheel?	
Diagram (with estimated measurements):	Your thinking:
Answer (both in terms of $\pi$ and as a decimal approximation):	

Question 3:  How much green space is there inside a traffic roundabout?	
Diagram (with estimated measurements):	Your thinking:
Answer (both in terms of $\pi$ and as a decimal approximation):	

Question 4:  How many square inches of cheese fit on a slice of pizza?	
Diagram (with estimated measurements):	Your thinking:
Answer (both in terms of $\pi$ and as a decimal approximation):	

Question 5:  How many times must a horse go around a horse walker to walk 1 mile?	
Diagram (with estimated measurements):	Your thinking:
Answer (both in terms of $\pi$ and as a decimal approximation):	

This page includes an additional set of info gap cards to use as an optional demonstration.

Cards for the student activity are located on the following page.

Merry-go-round and Unicycle  
**Problem Card 0**

Kiran is making circular stickers. How much room is there to spread glue on the backs of all the stickers in one set?

Merry-go-round and Unicycle  
**Data Card 0**

- The circumference of each sticker is  $8\pi$  cm.
- There are 5 stickers in a set.
- Kiran is making 10 sets of stickers.

Merry-go-round and Unicycle  
**Problem Card 0**

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Merry-go-round and Unicycle

**Problem Card 1**

Elena is seated on the edge of a merry-go-round. Her friend pushes it around 3 complete times and then a little bit more. How far does Elena travel?

Merry-go-round and Unicycle

**Data Card 1**

- The radius of the merry-go-round is 5 ft.
- The diameter of the merry-go-round is 10 ft.
- The area of the merry-go-round is  $25\pi \text{ ft}^2$ .
- The “little bit more” was  $\frac{1}{5}$  of a rotation.
- In total, she completed 3.2 rotations.

Merry-go-round and Unicycle

**Problem Card 2**

Clare is riding a unicycle. How far does she travel when the wheel makes 4 full rotations?

Merry-go-round and Unicycle

**Data Card 2**

- The area of the unicycle wheel is  $100\pi \text{ in}^2$ .

Merry-go-round and Unicycle

**Problem Card 1**

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Merry-go-round and Unicycle

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Merry-go-round and Unicycle

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Merry-go-round and Unicycle

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