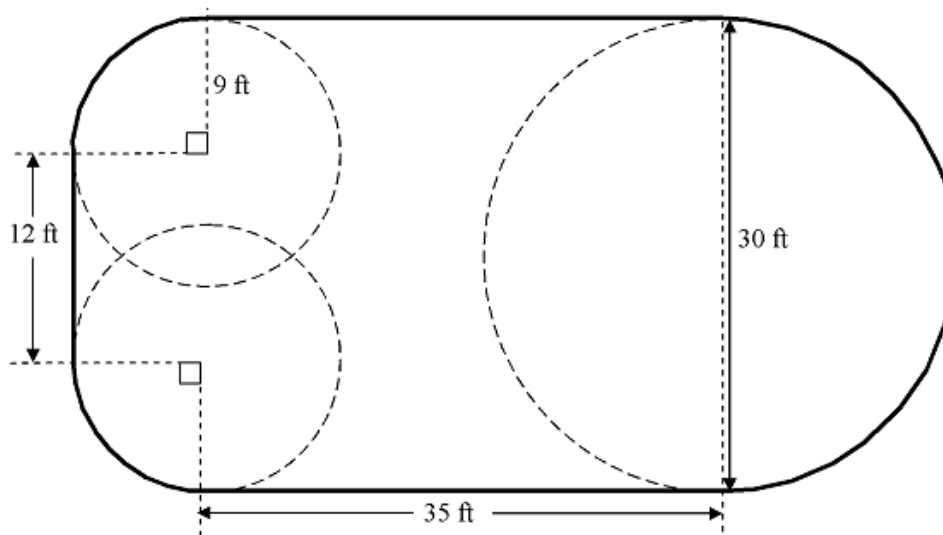**Geometry Arc and Sector Questions**

Name _____ **Date** _____

Class/Grade _____

1 The manager of an apartment complex is ordering new tile to lay around the perimeter of the apartment's swimming pool. The specifications for the pool are shown below. The solid lines represent the perimeter of the pool.
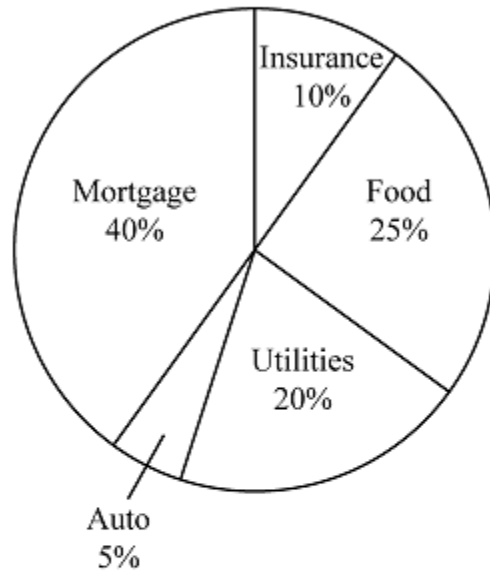
9 ft

12 ft

30 ft

35 ft

What is the approximate perimeter of the pool?

Ⓐ 287 feet
Ⓑ 148 feet
Ⓒ 178 feet
Ⓓ 158 feet

2. How far does the tip of a 14 cm long minute hand on a clock move in 10 minutes? Box your final answer – round to the nearest tenth of a cm.

QUARTZ

3.

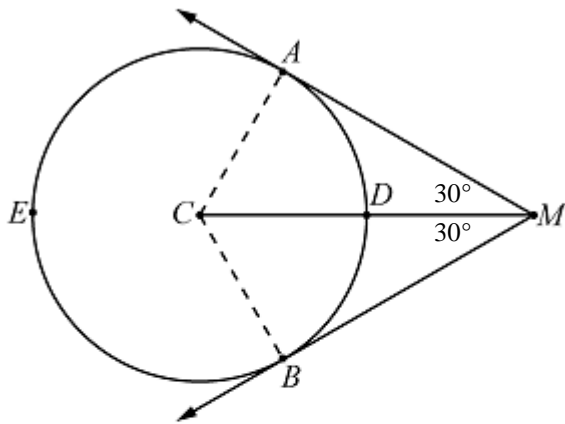The accompanying circle graph shows how the Marino family spends its income each month.

What is the measure of the central angle that represents the percentage of income spent on food?

Ⓕ 25°

Ⓖ 50°

Ⓗ 360°

Ⓙ 90°

4. An electric winch is used to pull a boat out of the water onto a trailer. The winch winds the cable around a circular drum of **diameter** 5 inches. Approximately how many times will the winch have to rotate in order to roll in 5 feet of cable? **HINT:** Convert everything to inches 1st
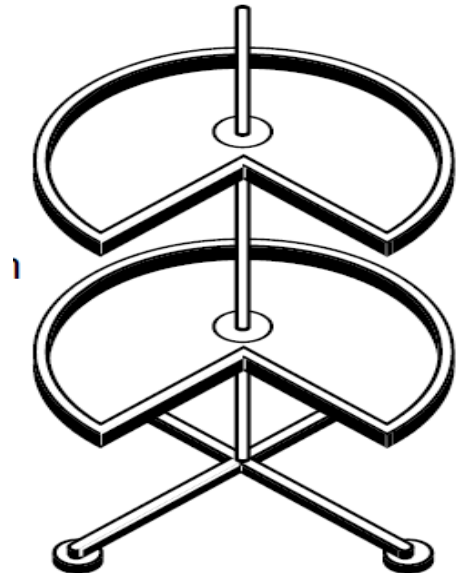
5. In the diagram of circle C below, $\overrightarrow{AM}$ and $\overrightarrow{BM}$ are tangents, and $\overline{DM} \cong \overline{CD}$.

Which of the following conjectures is true?

Ⓐ Length of $\overparen{BD}$ = CB

Ⓑ $\overline{CM} \cong \overline{AM}$

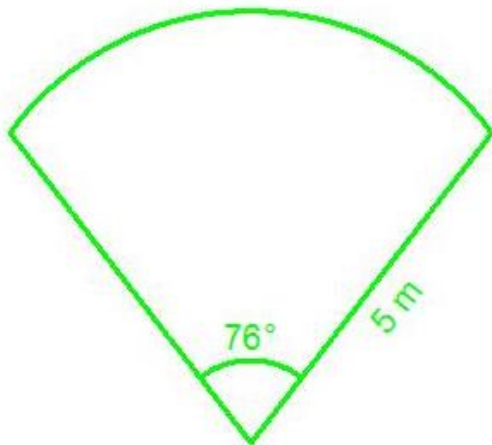Ⓒ $m\overparen{AEB} = 3\,m\overparen{AD}$

Ⓓ $\angle ACM \cong \angle AMB$

6. The circular shelves in the picture below are 28 inches in diameter. The "cut-out" portion of each shelf is 90°. Approximately how much shelf paper is needed to cover both shelves? Round to the nearest tenth.

_____

7.   You are working at a pizza delivery store and your math teacher places a special order: a large (15 inches in diameter) pizza with pepperoni on just a 36-degree slice of the pizza. What is the area of the pizza that will have pepperoni on it? Round to nearest tenth.
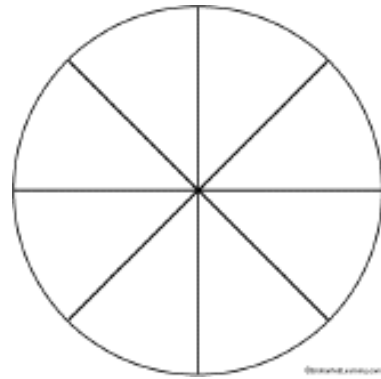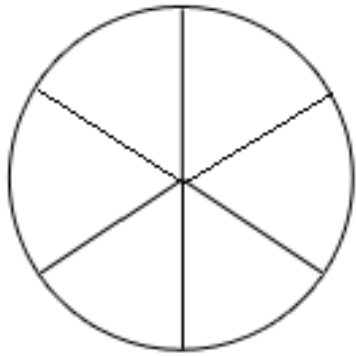

8.   A vegetable patch which is in the shape of a sector has a radius of 5m and an inside angle of 76^0. Find the area of the vegetable patch. Round to the nearest tenth.
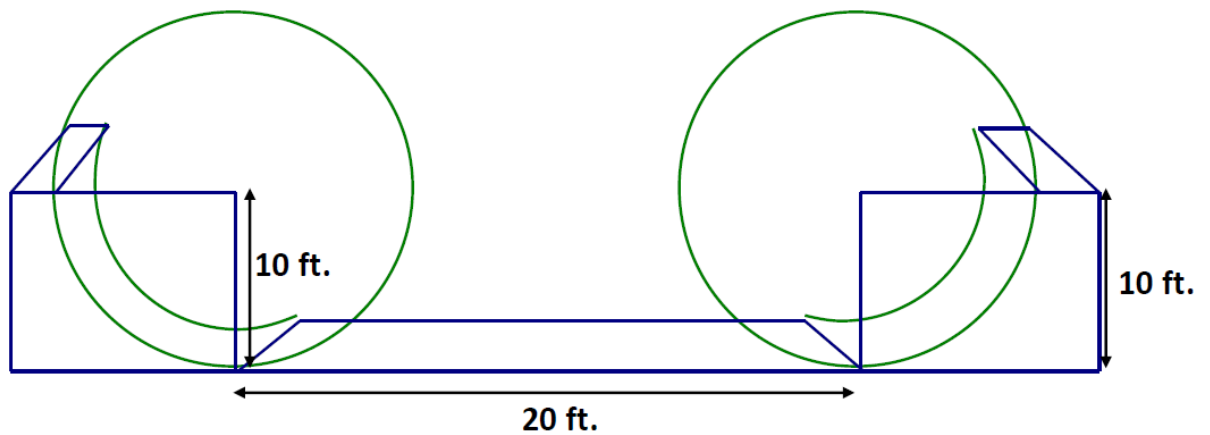

9. A stretched out paper fan forms a sector with a radius of 18 cm and an angle of 175^0. Calculate the area of the stretched out fan and round your answer to 1 decimal place.
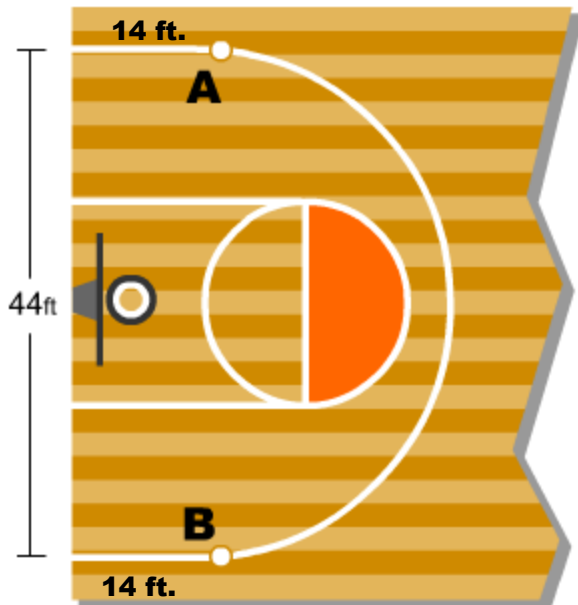
10. GeoPizza sells 12 inch and 16 inch diameter pizzas. They cut the 12 inch pizza into 6 slices and the 16 inch pizza into 8 slices. Would you get more pizza selecting 3 slices of the 12 inch pizza or 2 slices of the 16 inch pizza?

11. Find the distance a skater travels from the top of one ramp to the top of the other. Round to the nearest tenth.
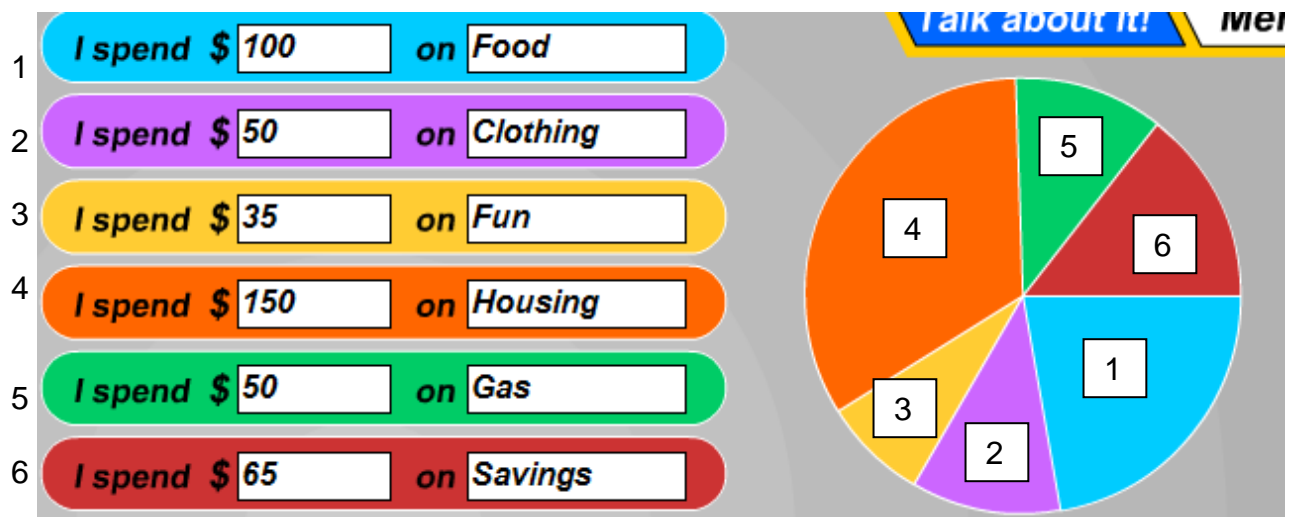

10 ft.

10 ft.

20 ft.

12. March Madness is a basketball fan's favorite time of the year. Calculate the length of the 3 point line on a basketball court. Round answer to the nearest tenth.
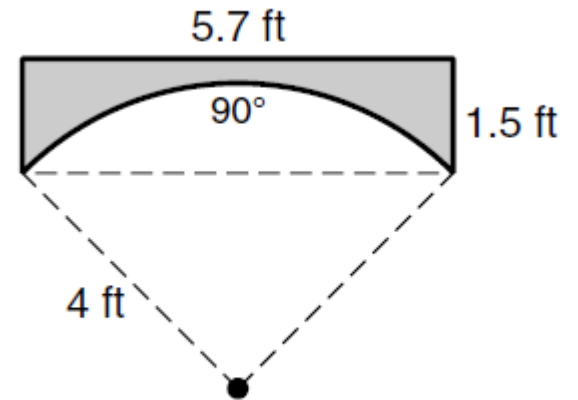

14 ft.

A

44ft

B

14 ft.

13. If the following were an estimate of your monthly living expenses – think about how the pieces of the pie chart were calculated using the degrees of a circle. Calculate the degree of the circle spent on Gas and Food. Round to the nearest degree. (360° in a circle)

Gas _____   Food _____

1 I spend $ 100   on Food
2 I spend $ 50   on Clothing
3 I spend $ 35   on Fun
4 I spend $ 150   on Housing
5 I spend $ 50   on Gas
6 I spend $ 65   on Savings

14. This archway is to be painted. What is the area of the archway to the nearest tenth?

5.7 ft

90°

1.5 ft

4 ft

15. A car's windshield wiper has a length of 20 inches and makes an arc of 160^0. The wiper blade is 12 inches long. Find the area of the windshield covered by one wiper blade swipe.