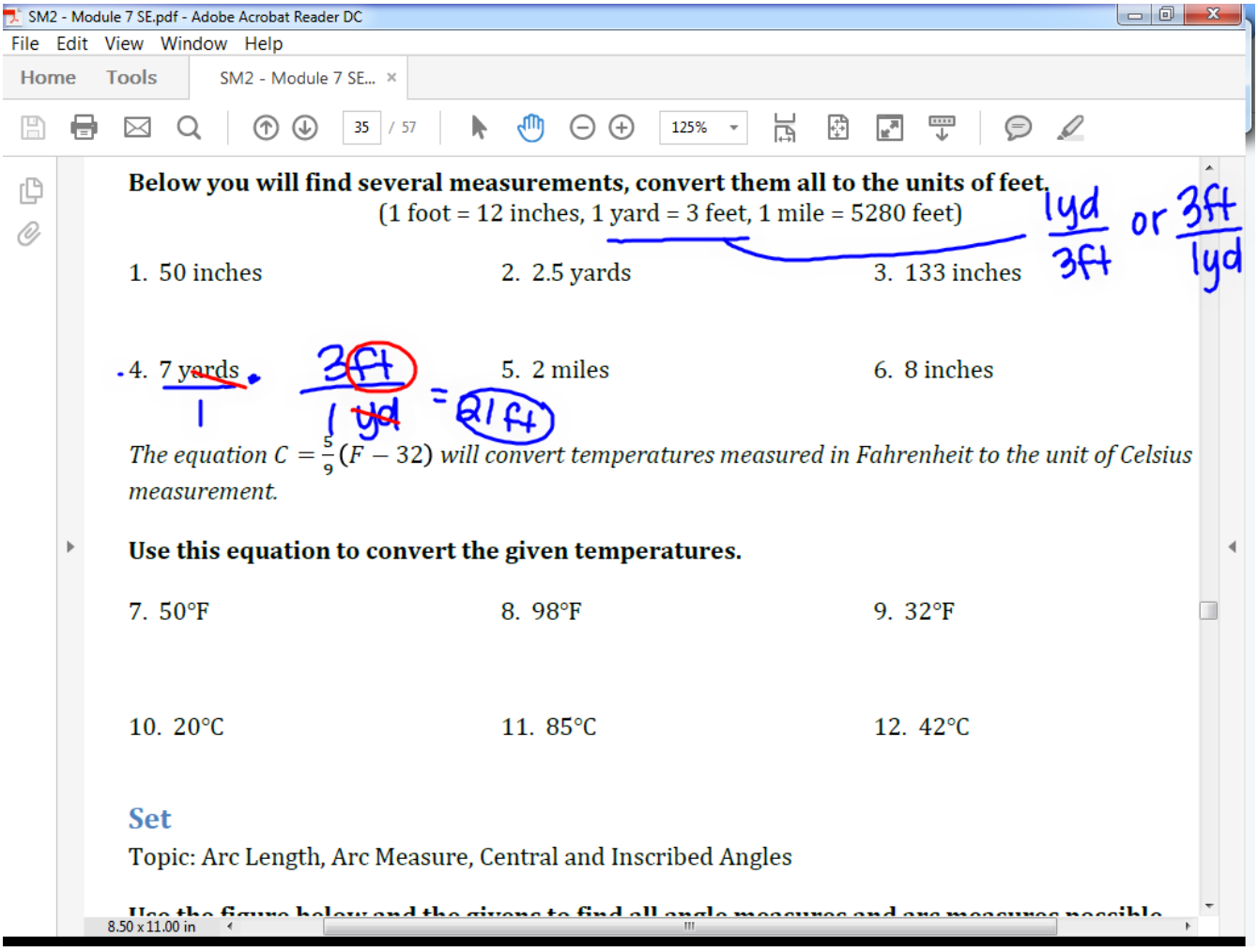
Questions on 7.6 HW? Quiz today...

Apr 8-8:30 AM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Below you will find several measurements, convert them all to the units of feet.
(1 foot = 12 inches, 1 yard = 3 feet, 1 mile = 5280 feet)
1yd/3ft or 3ft/1yd
1. 50 inches
2. 2.5 yards
3. 133 inches
4. 7 yards
3ft/1yd = 21ft
5. 2 miles
6. 8 inches
The equation $C = \frac{5}{9}(F - 32)$ will convert temperatures measured in Fahrenheit to the unit of Celsius measurement.
Use this equation to convert the given temperatures.
7. 50°F
8. 98°F
9. 32°F
10. 20°C
11. 85°C
12. 42°C
Set
Topic: Arc Length, Arc Measure, Central and Inscribed Angles
8.50 x 11.00 in

Apr 7-11:38 AM

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The equation $C = \frac{5}{9}(F - 32)$ *will convert temperatures measured in Fahrenheit to the unit of Celsius measurement.*

Use this equation to convert the given temperatures.

7. 50°F

8. 98°F

9. 32°F

10. 20°C

11. 85°C

12. 42°C

$\frac{9}{5} \cdot 42 = \frac{5}{9} \cdot \frac{5}{9}(F - 32)$

$76 = F - 32$

$+32 \quad +32$

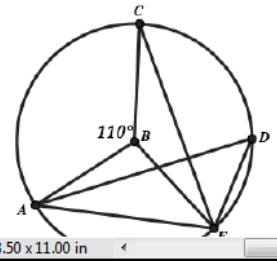
$F = 107.6°$

Set

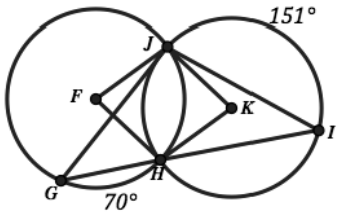
Topic: Arc Length, Arc Measure, Central and Inscribed Angles

Use the figure below and the givens to find all angle measures and arc measures possible.

13.



14. $\odot F \cong \odot K$ and $\angle JFH \cong \angle JKH$



8.50 x 11.00 in

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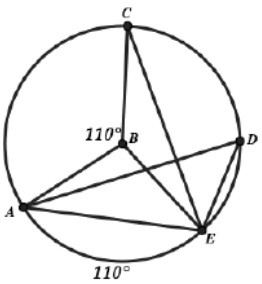
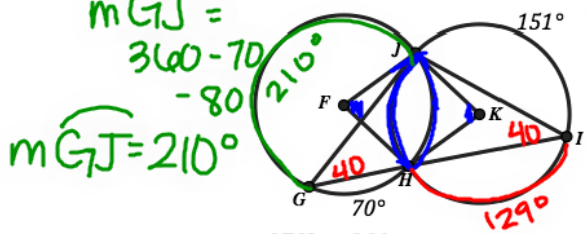
Use the figure below and the givens to find all angle measures and arc measures possible.

13.



14. $\odot F \cong \odot K$ and $\angle JFH \cong \angle JKH$



$m\overset{\frown}{GJ} = 360 - 70 - 80$

$m\overset{\frown}{GJ} = 210°$

$m\overset{\frown}{HI} = 360 - 151 - 80$

$m\overset{\frown}{HI} = 129°$

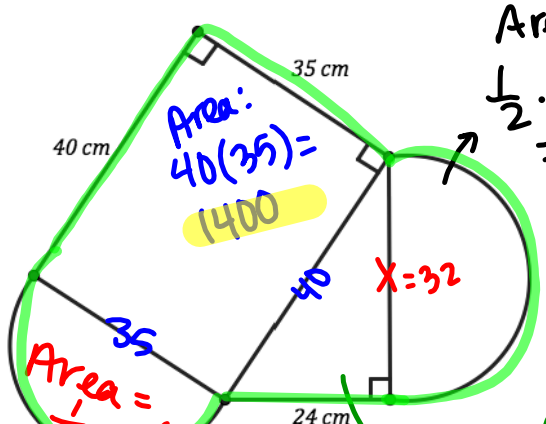
$m\angle JFH = 80°$

Circles: a Geometric Perspective | 7.6

8.50 x 11.00 in

Apr 7-11:51 AM

18.



Area: 40(35) = 1400

Area = $\frac{1}{2} \cdot \pi (16)^2$ = 402.1

$\sqrt{40^2 - 24^2} = x$

$32 = x$

X = 32

35

40

Area = $\frac{1}{2} \cdot \pi (17.5)^2$ = 481.1

Area = $\frac{1}{2} \cdot 24 \cdot 32$ = 384

Area of rectangle

$A = l \cdot w$

Area of Δ

$A = \frac{1}{2} bh$

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TOTAL AREA: 1400 + 402.1 + 384 + 481.1 = 2667.2 cm^2

PERIMETER: $40 + 35 + 24 + \frac{1}{2} \cdot 2\pi(17.5) + \frac{1}{2} \cdot 2\pi 16 =$

204.2 cm

7.7 Pied

A Develop Understanding Task

Students have planned several activities to celebrate Pi Day at their school. In addition to pie eating contests and "pie-ing" their favorite teachers, the Math Club plans to make money by selling slices of pie during lunch hour. Each member of the club has contributed a couple of homemade pies for the sale. Unfortunately, the members chose a variety of sizes and shapes of pans to bake their pies in. Some students used 9-inch round pans for their pies, others used 8-inch round pans, a few used 8-by-8 inch square pans, and one student used a 9-by-13 inch cake pan for his pie. Now the club members have the dilemma of how to slice the pies so each slice is about the same amount, since they plan to charge the same amount for each slice of pie regardless of the pan it came from.

After much debate, the club members have decided to slice the 8-inch round pies into 5 equal slices (or *sectors* as the math geeks call them), the 9-inch round pies into 6 equal slices, the 8-by-8 inch pies into 2-by-4 inch rectangles, and the 9-by-13 inch pie into 3-by-3 ¼ inch rectangles.

Although the pieces look like they are all about the same size, some students think there might be a price advantage in buying one type of slice over another.

1. Which slice of pie is the largest and which is the smallest? How did you decide?

$(3+\frac{1}{4})$ #1 #4

8 inch round: $\frac{\pi(4)^2}{5} = 10.1\ in^2$ #2

9in round: $\frac{\pi(4.5)^2}{6} = 10.6\ in^2$ #1

8x8: $2(4) = 8\ in^2$ #4

9x13: $3(3\frac{1}{4}) = 9.75\ in^2$ #3

Unfortunately, not everyone in the math club is good at eye-balling equal size *sectors* when cutting round pies. Therefore, one of the students is assigned to be in charge of "quality control". He is given a protractor and is told to reject any slices of pie that are more or less that 4° from the exact angle measurement.

Area of Sector: $\frac{\theta}{360}(\pi r^2)$

2. Using this criteria, what is the smallest and largest amount of pie you might get in a slice of pie taken from the 8-inch pan?

Central ∠: $\frac{360}{5} = 72°$

$r = 4$

smallest $(72-4)$: $\frac{68}{360}(\pi 4^2) = 9.5\ in^2$

largest $(72+4)$: $\frac{76}{360}(\pi 4^2) = 10.6\ in^2$

3. Using this criteria, what is the smallest and largest amount of pie you might get in a slice of pie taken from the 9-inch pan?

Central ∠: $\frac{360}{6} = 60°$

$r = 4.5$

smallest $(60-4)$: $\frac{56}{360}(\pi 4.5^2) = 9.9\ in^2$

largest $(60+4)$: $\frac{64}{360}(\pi 4.5^2) = 11.3\ in^2$

Apr 3-1:23 PM

The student in charge of quality control finds it is too difficult to measure the angle of a sector of pie in degrees, and suggest that they cut a piece of string that could be used to measure around the outer edge of the pie to let the servers know where to make the next cut.

arc length: $\frac{\theta}{360}(2\pi r)$

4. How long should this string be to measure the arc of a slice of pie for the 8-inch round pies?

72° central ∠

arc length: $\frac{72}{360}(2\pi 4) = 5.0$ in or $\frac{1}{5}\cdot 2\pi 4$

5. How long should this string be to measure the arc of a slice of pie for the 9-inch round pies?

60° central ∠

arc length: $\frac{60}{360}(2\pi 4.5) = 4.7$ in or $\frac{1}{6}\cdot 2\pi 4.5$

Wendell really likes pie and has offered to pay double the price for a slice of pie that is guaranteed to contain at least 15 in² of pie.

6. What is the degree measure of the smallest sector of the 8-inch round pie that will satisfy Wendell's cravings?

7. How long should the string be that will measure the outer arc of this sector?

8. What is the degree measure of the smallest sector of the 9-inch round pie that will satisfy Wendell's cravings?

9. How long should the string be that will measure the outer arc of this sector?

10. A sector of the 9-inch round pie measures $n°$. What is its area? What is its arc length?

Homework

Finish 7.7 "Ready, Set, Go"

Mar 28-9:36 AM