

Questions on 7.7 HW? We are reviewing for the SAGE test that will be 4/21-4/26.

**Today we are working on #1-25 on our Secondary Math II - Review (it is SAGE/final review).

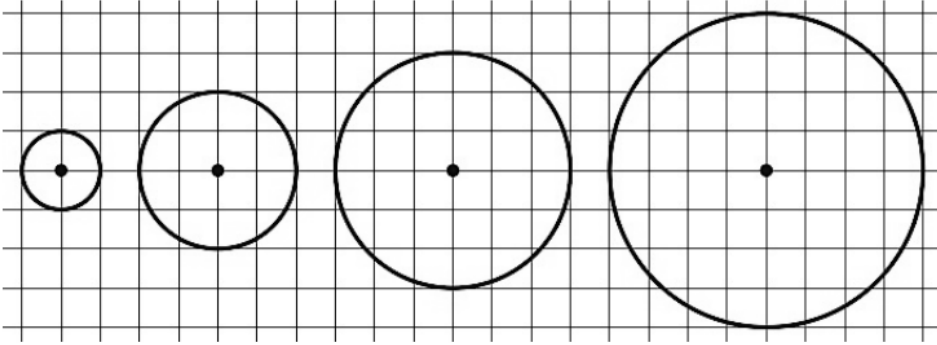
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1. There are four circles below each with a different radius. Determine the circumference and area of each and look for any patterns. What do you notice?



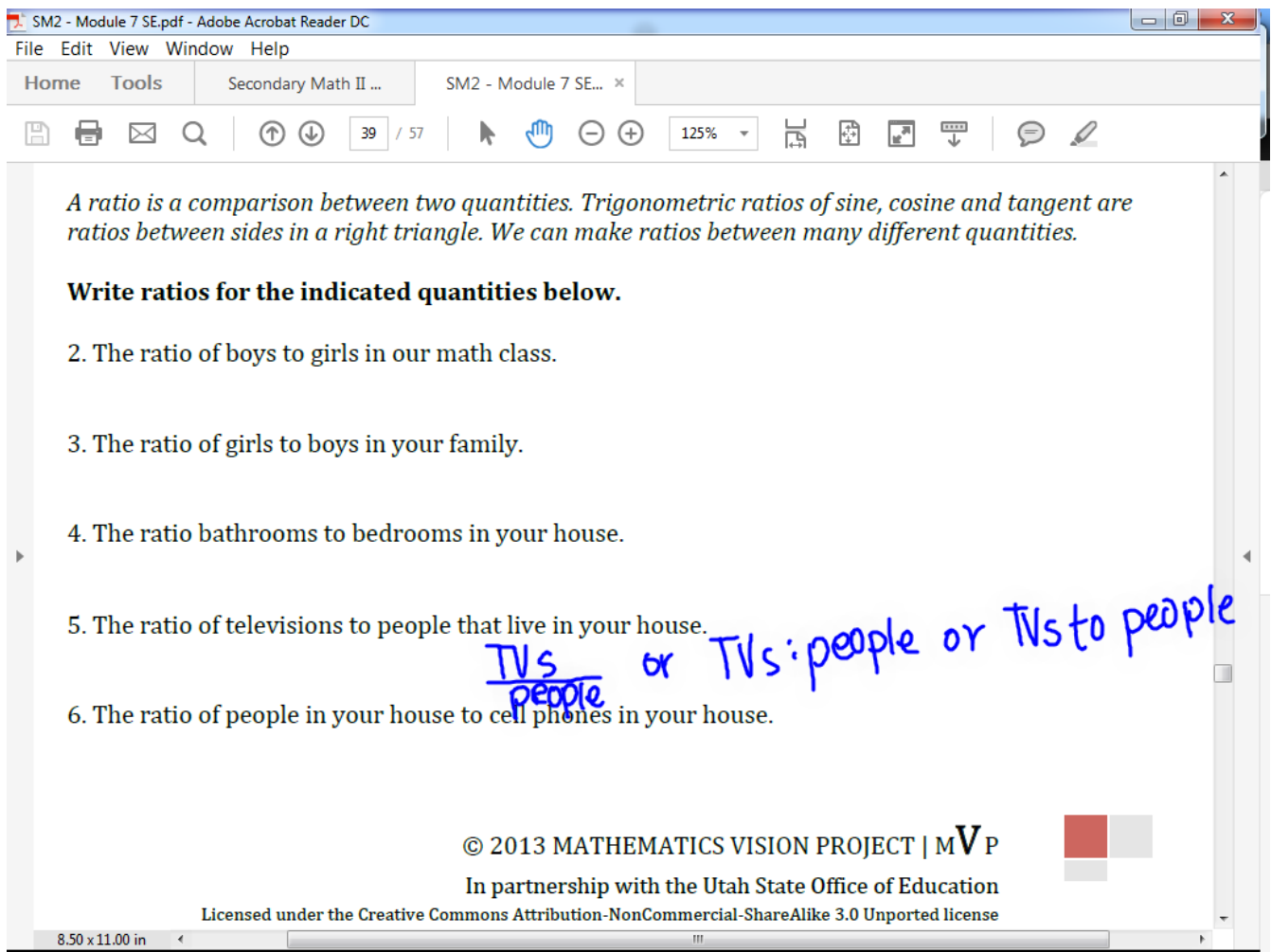
	Radius = 1	Radius = 2	Radius = 3	Radius = 4
Circumference				$2\pi \cdot 4 = 8\pi$
Area				$\pi 4^2 = 16\pi$

A ratio is a comparison between two quantities. Trigonometric ratios of sine, cosine and tangent are ratios between sides in a right triangle. We can make ratios between many different quantities.

Write ratios for the indicated quantities below.

2. The ratio of boys to girls in our math class.

8.50 x 11.00 in



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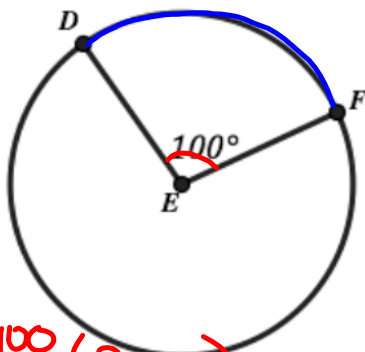
Write ratios for the indicated quantities below.

2. The ratio of boys to girls in our math class.
3. The ratio of girls to boys in your family.
4. The ratio bathrooms to bedrooms in your house.
5. The ratio of televisions to people that live in your house.
TVs / people or TVs:people or TVs to people
6. The ratio of people in your house to cell phones in your house.

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8.50 x 11.00 in

11. The arc length of arc DF measures 30 m. What is the area of the circle?

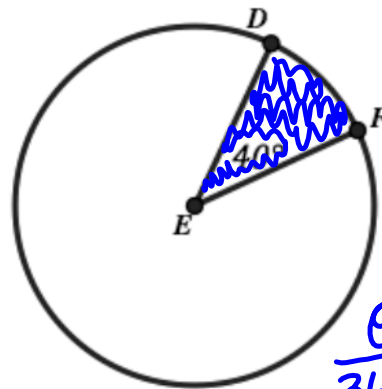


$$30 = \frac{100}{360} (2\pi r)$$

$$30 = \frac{200\pi r}{360} \cdot \frac{360}{200\pi}$$

$$\frac{360}{200\pi} \cdot 30 = r$$

12. The area of the small sector is $\pi \text{ in}^2$. What is the circumference of the circle?



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

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

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17.2 = r

Circle Area

$$A = \pi (17.2)^2$$

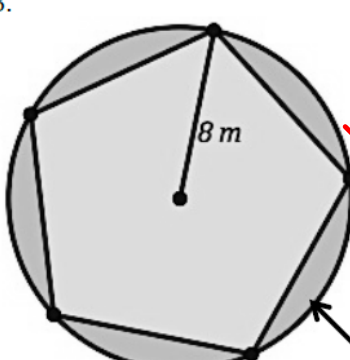
$$A = 929.4 \text{ m}^2$$

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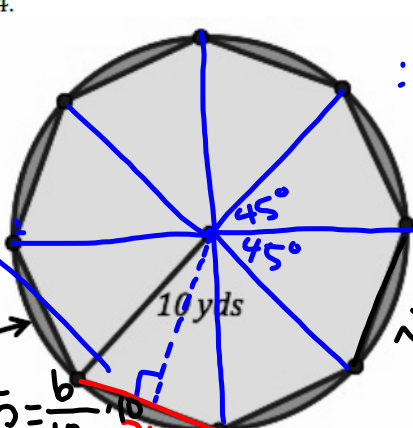
Find the area of the darkest shaded region in each figure below.

13. 

 $10 \cdot \cos 22.5 = \frac{a}{10} \cdot 10$

 $10 \cdot \cos 22.5 = a$

 $9.2 = a$

14. 

 $\frac{1}{2} \cdot 45 = 22.5$

 $10 \cdot \sin 22.5 = \frac{b}{10} \cdot 10$

 $10 \cdot \sin 22.5 = b$

 $3.8 = b$

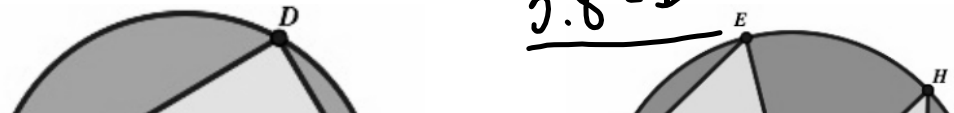
 side length: $2(3.8) = 7.6$

Total Area: Circle Area - Octagon Area

$\pi r^2 - \frac{1}{2} P a$

$\pi 10^2 - \frac{1}{2} (7.6 \cdot 8) 9.2$

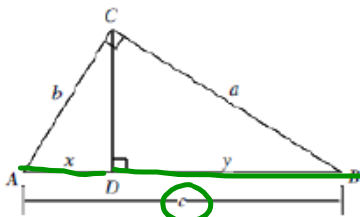
$= 34.5 \text{ yds}^2$

15. 

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8. In the figure below, $\triangle BCA \sim \triangle BDC \sim \triangle CDA$.



Fill in the following blanks using the lengths $a, b, c, x,$ and y .

Part 1: Complete the proportions.

$$\frac{b}{x} = \frac{c}{b}$$

$$\frac{a}{y} = \frac{c}{a}$$

Part 2: Use the method of cross products to rewrite the equations in Part 1.

$$b^2 = c \cdot x$$

$$a^2 = c \cdot y$$

Part 3: Use Part 2 to fill in the blanks.

$$a^2 + b^2 = c \cdot x + c \cdot y$$

Part 4: Factor the right-hand side of Part 3.

$$a^2 + b^2 = c(x + y)$$

Part 5: Use the Segment Addition Property.

$$y + x = c$$

Part 6: Use Part 5 to rewrite the equation in Part 4.

$$a^2 + b^2 = c(c)$$

Part 7: Simplify.

$$a^2 + b^2 = c^2$$

9. In $\triangle KLM$, $\overline{KL} \parallel \overline{NO}$. Given that $MK = 36$, $MN = 21$, and $MO = 28$, find ML .



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4. Draw the image of the following segment after a dilation centered at the origin with a scale factor of $\frac{2}{3}$.

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