

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).

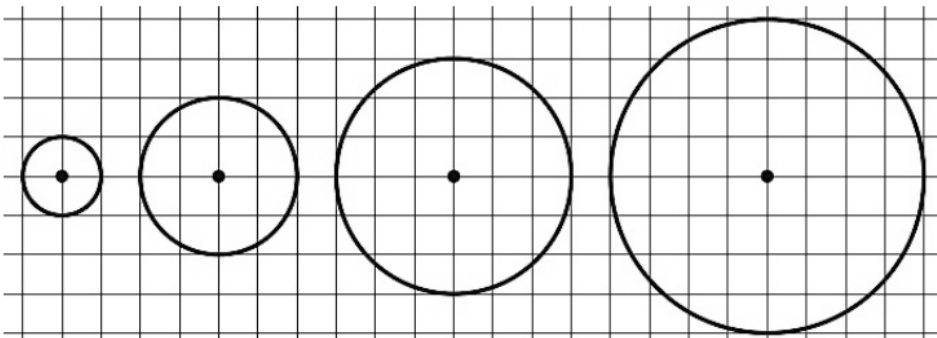
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1. There are four circles below each with a different radius. Determine the circumference and area of each and look for any patterns. What do you notice?



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

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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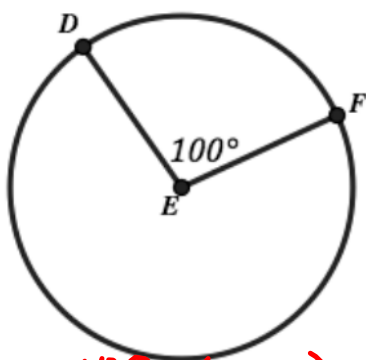
Write ratios for the indicated quantities below.

- The ratio of boys to girls in our math class.
- The ratio of girls to boys in your family.
- The ratio bathrooms to bedrooms in your house.
- The ratio of televisions to people that live in your house. *TVs to people or $\frac{\text{TVs}}{\text{people}}$ or TVs:people*
- The ratio of people in your house to cell phones in your house.

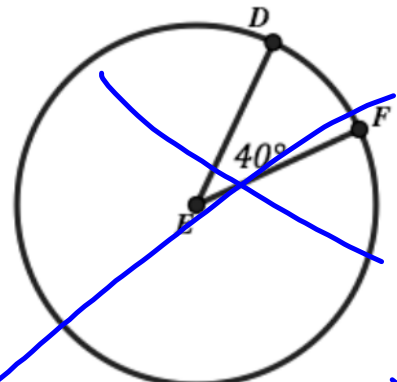
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11. The arc length of arc DF measures 30 m
What is the area of the circle?



12. The area of the small sector is π in².
What is the circumference of the circle?



Handwritten notes for problem 11:

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

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

$$\frac{10800}{200\pi} = \frac{200\pi r}{200\pi}$$

Handwritten notes for problem 12:

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

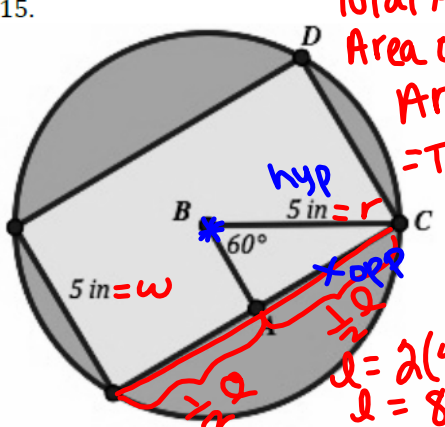
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$$\underline{17.2 = r}$$

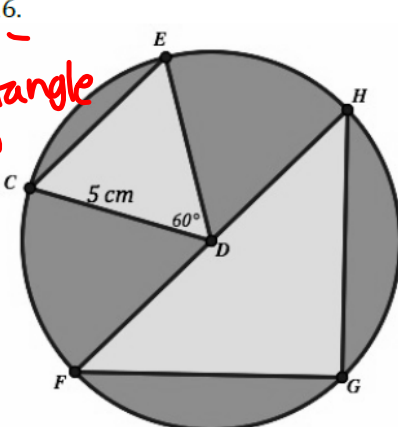
$$A = \pi (17.2)^2$$

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

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15. 

Total Area:
 Area of Circle -
 Area of Rectangle
 $= \pi r^2 - lw$

16. 

OH
 SOH *
 CAH
 TOA

$5 \cdot \sin 60 = \frac{x}{5}$
 $5 \cdot \sin 60 = x$
 $4.3 = x$

Total Area:
 $\pi 5^2 - 8.6(5)$
 Area = 35.5 in^2

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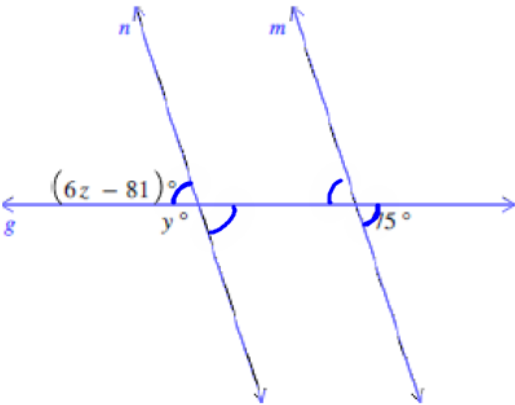
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2. In the figure below, $n \parallel m$. Find the values of y and z .



Handwritten work:

$$6z - 81 = 75$$

$$\frac{6z - 81}{+81} = \frac{75}{+81}$$

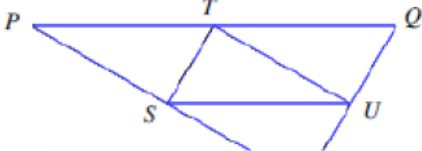
$$\frac{6z}{6} = \frac{156}{6}$$

$$z = 26$$

$$y = 180 - 75 = 105^\circ$$

3. In the figure below, points S , T , and U are the midpoints of the sides of $\triangle PQR$.

Suppose $QR = 40$, $SU = 52$, and $PR = 96$.
Find the following lengths.



$PQ = \underline{\hspace{2cm}}$

$PT = \underline{\hspace{2cm}}$

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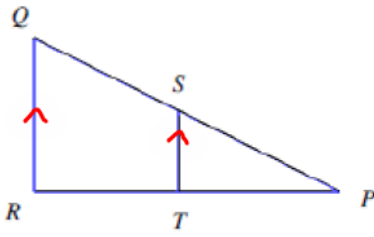
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6. Use the given information to prove that $\triangle PQR \sim \triangle PST$.



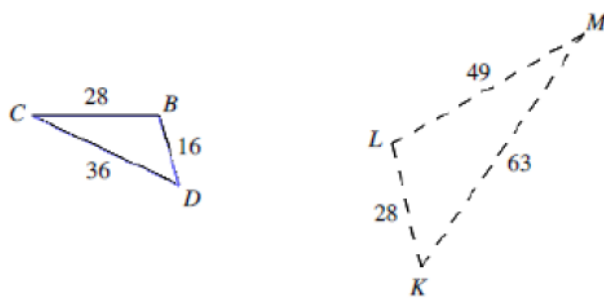
Given: $\frac{PR}{PT} = \frac{PQ}{PS} = \frac{RQ}{TS}$

Prove: $\triangle PQR \sim \triangle PST$

Handwritten notes:
 $\angle P \cong \angle P$
 $\angle PQR \cong \angle PST$ (corr \angle s)
 $\angle PRQ \cong \angle PTS$ (corr \angle s)

7. For the triangles below, use the tools to move the solid triangle exactly onto the dashed one.

Then answer the parts below.



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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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5. The quadrilaterals $ABCD$ and $JKLM$ are similar.
 Find the length x of \overline{MJ} .

Handwritten work for problem 5:

$$\frac{x}{7} = \frac{2.7}{3}$$

$$\frac{x}{7} = \frac{2.7}{3}$$

$$x = \frac{7(2.7)}{3}$$

$$x = 6.3$$

6. Use the given information to prove that $\triangle PQR \sim \triangle PST$.

Given: $\frac{PR}{PT} = \frac{PQ}{PS}$

Prove: $\triangle PQR \sim \triangle PST$

7. For the triangles below, use the tools to move the solid triangle exactly onto the dashed triangle.

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