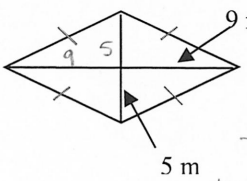
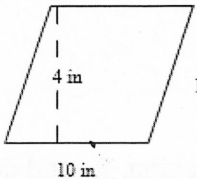
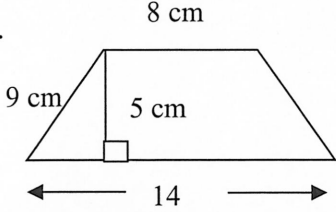
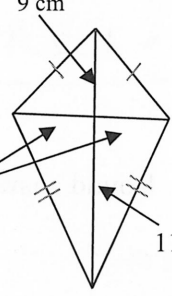


(3pts) Find the area of each of the following polygons. Label your answers

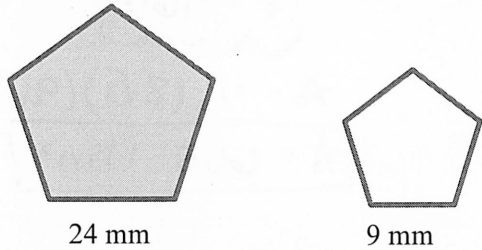
1.   $d_1 = 10m$   
 $d_2 = 18m$   
 $A = \frac{1}{2} d_1 \cdot d_2$   
 $A = 90m^2$

2.   $A = b \cdot h$   
 $A = (10)(4)$   
 $A = 40in^2$

3.   $A = \frac{1}{2} h (b_1 + b_2)$   
 $A = \frac{1}{2} (5)(8 + 14)$   
 $A = 55cm^2$

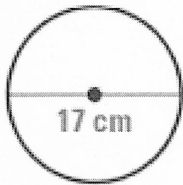
4.   $d_1 = 20cm$   
 $d_2 = 16cm$   
 $A = \frac{1}{2} d_1 \cdot d_2$   
 $A = \frac{1}{2} (20)(16)$   
 $A = 160cm^2$

5. (4pts) Corresponding lengths in similar figures are given. Find the ratios (shaded to unshaded) of the perimeters and areas.

  $\frac{24}{9} (\div 3)$

Perimeter Ratio =  $\frac{8}{3}$   
Area Ratio =  $\frac{64}{9}$

6. (3pts) Find the circumference of each circle below. Give both the exact and approximate answers. Round to the nearest hundredth.

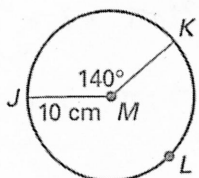


$C = 2\pi r$  OR  $C = d\pi$   
 $C = 17\pi$

Exact =  $17\pi cm$

Approximate =  $53.41cm$

Use  $\odot M$  to find the indicated measures. Round answer to the nearest hundredth.



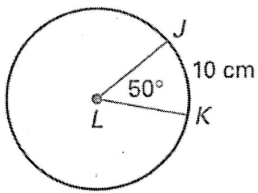
7.  $m\widehat{JK} = 140^\circ$

8. Find the length of  $\widehat{JK}$ . =  $\frac{140^\circ}{360^\circ} (2\pi \cdot 10) = 24.43cm$

9.  $m\widehat{JLK} = 220^\circ$

10. Find the length of  $\widehat{JLK}$ . =  $\frac{220^\circ}{360^\circ} (2\pi \cdot 10) = 38.40cm$   
*change Area*

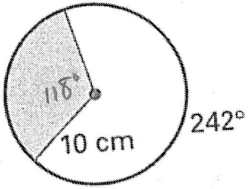
11. Find the Circumference of  $\odot L$ . Round answer to the nearest hundredth.



$$\frac{10}{C} = \frac{50}{360} \rightarrow \frac{3600}{50} = \frac{50C}{50}$$

$$72 \text{ cm} = C$$

12. Find the area of the shaded region. Round answer to the nearest hundredth.

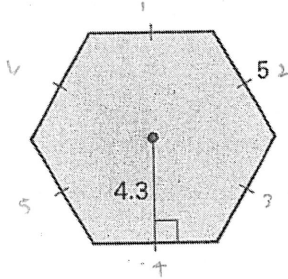


$$\text{Area} = \frac{118^\circ}{360^\circ} (\pi 100)$$

$$\text{Area} = 102.97 \text{ cm}^2$$

Find the area of the regular polygons. Round answers to the nearest hundredth.

13.



$$A = \frac{1}{2} a P$$

$$a = 4.3$$

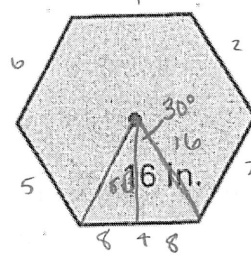
$$P = 5(6)$$

$$P = 30 \text{ units}$$

$$A = \frac{1}{2} (4.3)(30)$$

$$A = 64.5 \text{ units}^2$$

14.



$$A = \frac{1}{2} a P$$

$$a = 8\sqrt{3} \text{ in}$$

$$P = 16(6)$$

$$P = 96 \text{ in}$$

$$A = \frac{1}{2} (8\sqrt{3})(96)$$

$$A = 665.11 \text{ in}^2$$

$$\cos 30^\circ = \frac{a}{16}$$

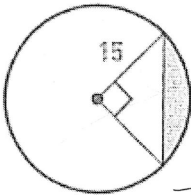
$$a = 13.86$$

$$\sin 30^\circ = \frac{x}{16}$$

$$x = 8 \quad s = 16 \quad P = 96$$

Find the probability that a randomly chosen point in the figure lies in the shaded region.

15.



$$\text{Sector Area} = \frac{90^\circ}{360^\circ} (\pi \cdot 225)$$

$$= 176.7 \text{ units}^2$$

$$\text{Triangle Area} = \frac{15(15)}{2}$$

$$= 112.5 \text{ units}^2$$

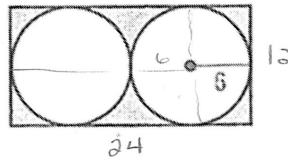
$$\text{Shaded Area} = 176.7 - 112.5 = 64.2 \text{ units}^2$$

$$P(\text{pt lies in shaded Area}) = \frac{64.2}{225\pi} = 0.0908$$

$$\text{Total } \odot A = \pi(15^2)$$

$$\approx 9.08\%$$

16.



$$\text{Rectangle Area} = (24)(12) = 288 \text{ units}^2$$

$$\text{Circle Area} = \pi(6^2) = 36\pi \times 2 = 72\pi$$

$$\text{Shaded Area} = 288 - 72\pi = 61.81$$

$$P(\quad) = \frac{61.81}{288} = 0.2146$$

$$\approx 21.46\%$$