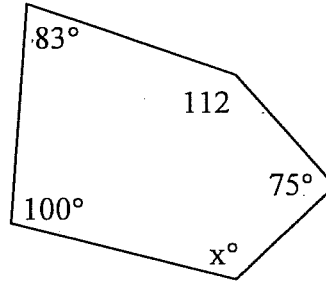


1. Find the measure of **angle x**.

$$(n-2)180 = 540$$



$$370 + x = 540$$

$$x = 170$$

2. The measures of each interior angle of a **regular** polygon is 150° . How many sides does the polygon have?

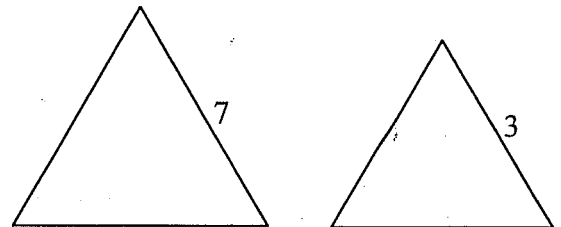
$$(n-2)180 = 216$$

3. Find the area of the **regular** hexagon if the radius is 14 m.

$$1A = 4905 \quad 6A = 29403$$

4. Find the ratio of the perimeters of the **small** regular triangle to the **large** regular triangle.

$$3:7$$



5. The ratio of the side lengths of two equilateral triangles is **4:7**

- a) What is the ratio of their perimeters?

$$4:7$$

- b) What is the ratio of their areas?

$$16:49$$

6. The ratio of the areas of two regular hexagons is 25:16, what is the ratio of their sides?

$$5:4$$

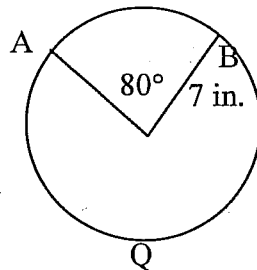
7. Find the radius of a circle with a circumference of 50 ft. Give your answer as an exact answer and rounded to the nearest 10th.

$$2\pi r = 50$$

$$r = \frac{25}{\pi}$$

8. Find the length of **AB** of $\odot Q$.

$$\frac{80}{360} (2\pi(7)) = \frac{2}{9} (2\pi(7))$$



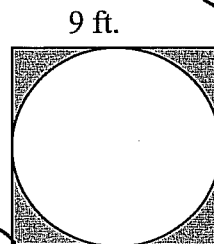
$$\frac{28\pi}{9}$$

9. Find the area of the shaded region between the square and the circle

$$r = \frac{9}{2}$$

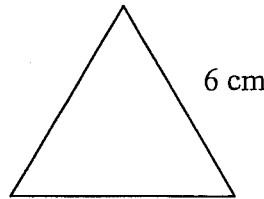
$$81 - \pi r^2$$

$$81 - \pi \left(\frac{9}{2}\right)^2 = 81 - \frac{81\pi}{4}$$

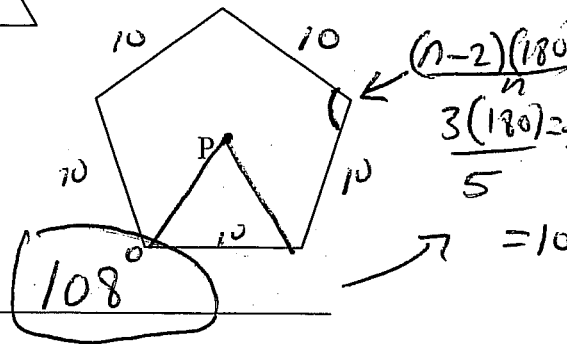


10. Find the area of the equilateral triangle with the side length of 6cm.

$\left(\frac{6}{2}\right)^2 \sqrt{3}$ $9\sqrt{3}$



11. The figure to the right is a regular polygon with center at point P and each side 10 cm long.

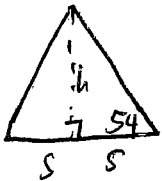


a. What is the measure of each interior angle? 108°

b. What is the measure of each exterior angle? $\frac{360}{5} = 72°$

c. What is the perimeter? 50 cm

d. What is the area in Trigonometric form? $125 \tan 54$

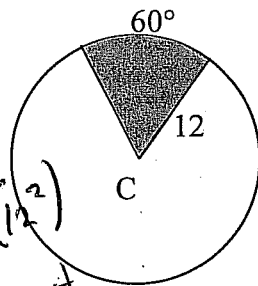


$h = 5 \tan 54$
 $1A = \frac{1}{2}(10)5 \tan 54 = 25 \tan 54$

e. What is the area in decimal form? 172.048

Find the area of the shaded sectors.

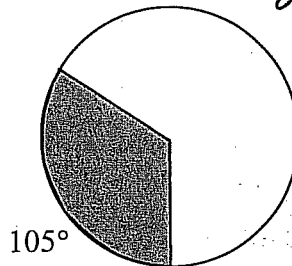
12.



$\frac{60}{360} \left(\pi (12^2) \right)$
 $\frac{1}{6} (44\pi)$
Area = 24π

13. Radius = 10mm

$\frac{21}{72} = \frac{7}{24}$



Area = $175/24\pi$

$2\pi r = 10$
 $\pi r = 5$

$\frac{7}{24} \pi \left(\frac{5}{\pi} \right)^2$
 $\frac{7}{24} \pi \left(\frac{25}{\pi^2} \right)$

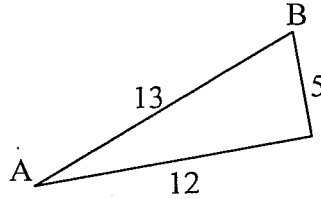
$\frac{175}{24\pi}$

17. Find the sine, cosine, and tangent for the acute angle A of the right triangle.

$$\sin A = \frac{5}{13}$$

$$\cos A = \frac{12}{13}$$

$$\tan A = \frac{5}{12}$$



18. Find the value of each variable using these right triangles. **Write it in trigonometric form first and then estimate using your calculator** rounding to the nearest tenth.

$$\cos 27 = \frac{10}{x}$$

$$x = \frac{10}{\cos 27}$$

a)

$\tan 27 = \frac{y}{10}$

$x = \frac{10}{\cos 27} = 11.2$

$y = 10 \tan 27 = 5.1$

b)

$\tan 80 = \frac{7}{x}$

$x = \frac{7}{\tan 80} = 1.2$

$y = \frac{7}{\sin 80} = 7.1$

20. Find the measure of each side or angle.

PR = 16

PQ = 32

$m\angle P =$ 60

